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A JOURNAL PUBLISHED MONTHLY IN THE INTERESTS OF MEDICINE AND SURGERY

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Original Contributions.

GOITRE AND ITS TREATMENT.*

BY GEO. A. BINGHAM, M.B., TORONTO,
Associate Professor of Clinical Surgery, University of Toronto.

FOUR years ago at the request of the Committee on Papers I made a report to this Association based upon my experience with 33 cases of goitre operated upon. This year, in casting about for a subject upon which to address you, I thought it might be useful to omit these questions of medical politics which have been so thoroughly threshed out by my predecessors in this chair and to detail very briefly a second report on goitre and its treatment, founded on a series of 82 operations in all.

As pointed out by C. H. Mayo[1] the rapidly increasing number of cases operated upon during quite recent years does not mean that goitre is on the increase, but that nowadays, it is recognized that a comparatively early operation for goitre is, as a rule, followed by results most gratifying to both surgeon and patient and is accompanied by an extremely small mortality rate. Indeed, I would now go so far as to say that in cases where as yet no pressure symptoms have developed, the patient, in view of future development, and even for esthetic reasons, has a perfect right to claim the benefits of an operation which, in careful hands, should be as free from danger as appendicectomy.

THE PARATHYROIDS.

The anatomy and functions of the parathyroids and the relations to the thyroid gland have been matters of keen interest to the surgeon of late years and much experimentation has been

* President's Address, Ontario Medical Association.

carried out. But much remains still to be done before the riddle of these curious bodies shall be interpreted aright. First noted by Sandstrom, in 1880, and described by Horsley in 1884, many experimenters have since labored to ascertain their functions. They found that the thyroid and parathyroids were separate and distinct entities; that while complete removal of the thyroid interfered with assimilation and metabolism, producing a chronic condition known as myxedema, on the other hand, complete removal of the parathyroids induced a very acute state of tetany, somewhat resembling the symptoms of Graves's disease, and from which the patient usually succumbed. Roswell Park[2] thus sums up the knowledge so far conveyed to us by the experimenters:

"1. There are two quite different sets of tissues involved in the thyroid and parathyroids.

"2. They are not completely independent of each other, for the removal of either one caused changes in the others.

"3. There is reason to believe that myxedema follows removal of the thyroid and tremors and nervous symptoms, including tachycardia, result from extirpation of the parathyroids.

"4. It would appear, further, that failure of the parathyroids is followed by enlargement of the thyroid. If this be true, Graves's disease seems to be explained, since the former would account for the enlargement of the thyroid sometimes so conspicuous, while the increased secretion afforded by this enlargement will account for the exophthalmos."

This relation of the parathyroids to Graves's disease, however, would appear to be pretty thoroughly disproven by the careful dissections of Benjamens, MacCallum and others who found that the parathyroids were perfectly normal in cases of exophthalmic goitre examined and, therefore, could have nothing to do with the production of the disease. These little ductless glands, which have received so much attention of late (and to the study of which I beg to direct the efforts of my younger scientific friends in the profession), are usually four in number, two upper and two lower, and, as a rule, lie behind the thyroid, often in the neighborhood of the entrance to the gland of the superior and inferior thyroid arteries, from which vessels they receive their blood supply. They have been found most frequently in the areolar tissue behind the gland, sometimes in contact with the gland capsule and rarely within the capsule embedded in the thyroid tissue itself. They are elliptical in shape and homogenous in appearance, and they are much softer in consistence than either thyroid or lymphatic tissue.[3]

Let us now ask ourselves the question—Of what value to the operating surgeon is this somewhat vague and indefinite

knowledge of the situation and function of the parathyroids? Here I think we must all agree that in operations upon the thyroid, we should endeavor to leave intact a part and, if possible, all of the parathyroids, as it has been shown that the severity and danger of the tetanic condition resulting from their extirpation is in direct proportion to the amount of parathyroid tissue removed. The only difference of opinion will be as to how, during an operation, the safety of the parathyroids may be best conserved.

It has been suggested by Park[4] that this end might be most effectually attained by opening up the thyroid capsule and enucleating the gland, thus leaving behind the capsule and, of course, the parathyroids in contact with it. To this method I must object for several reasons, some positive and others negative:

1. The hemorrhage resulting is always severe and makes the operation an unsatisfactory one.

2. In thyroidectomy, I almost invariably leave one lobe intact and, consequently, at least two of the parathyroids are preserved and, in man, it seems fairly certain that two normal parathyroids are sufficient.

3. While the parathyroids in dogs are quite often found within the thyroid capsule, I have never found it so in man, nor, so far as I know, have others of much greater experience and opportunity of observation.

4. It would seem that by exercising care during an operation upon the thyroid, the parathyroids may often be distinguished, avoided and their blood supply preserved.

5. Finally, by working very close to the outer surface of the thyroid capsule and by ligating the vessels at a point as close as possible to the gland, it would appear very probable that the parathyroids would be preserved even though not recognized during the operation.

Graves's Disease.

As has been pointed out by Kocher[5] the term exophthalmic goitre is misleading, inasmuch as the exophthalmos is not, as a rule, present at the beginning of the disease and, indeed, may not develop until the very life of the patient is threatened. Now, as the cure of the patient depends very largely upon an early diagnosis by the physician, it would seem wise to discard the term "exophthalmic," at all events in connection with the earlier symptomatology of the disease. Every surgeon interested in this class of work has encountered cases differing greatly in severity. Kocher[6] classifies these types of varying degrees of intensity as follows:

Class A. Vascular Goitre.—This type develops rather suddenly as a soft and uniform enlargement of the gland. Exophthalmos is absent, but Graefe's sign is probably present. Tachycardia, tremor, enlargement of the vessels of the gland, with bruit and thrill, are nearly always symptoms of this variety of goitre from the beginning.

Class B. Struma gravesiana colloides.—Here an ordinary colloid goitre has existed, perhaps, for years when, suddenly or slowly, symptoms of Graves's disease make their appearance. Exophthalmos is often absent until the disease is well developed. All the other symptoms are present, but are not so severe as in a typical case of Graves's disease. It is suggested that in these cases the colloid material present may, in some way, counteract the toxic effect of the hyper-secretion of the gland upon the sympathetic nervous system.

Class C. Typical Graves's Disease.—In this class, the symptoms of the disease develop slowly or sometimes suddenly, frequently with a history of previous long-continued nerve strain or a severe mental shock. Exophthalmos is present and all the other symptoms are well marked and severe. If this type of the disease be not early recognized and treated, it runs a rapid course and secondary changes soon appear in heart, muscle and vessel walls, which render impossible an operation which, if undertaken at an earlier date, would almost certainly have effected a cure.

Including these three classes of Graves's disease, I have operated upon 13 cases, 4 males and 9 females. Ten of these cases improved steadily after operation, and to-day consider themselves cured. In regard to the three deaths, all belonged to the typical class of Graves's disease. The first was a male in good mental condition prior to operation He died in a severe maniacal condition 72 hours afterwards. In this case the operation was an easy one, the tumor was not large, though deeply placed, and there was but little manipulation of the gland, the smaller lobe being left *in situ,* as has been my custom. I confess that this case has been a complete puzzle to me. The other two cases were females with the disease altogether too far advanced for operation. On neither of them, with my present experience, would I now operate. One of them died in an asylum three and a half months after the operation. There was a rapid recrudescence of the growth in the remaining lobe and she died of exhaustion. The other case died six hours after the operation of heart failure. Now, although thirteen cases of Graves's disease is but a small number from which to make deductions, yet the fact that 77 per cent. of them were cured has quite decided for me the question

of the advisability of operation in these cases. The all-important points are for the physician to make his diagnosis early, put the patient to bed, and make his surroundings such that he will be in a condition of absolute rest, physical and mental. As for medicine, in addition to maintaining strictly the nutrition and functions of the body, I have used phosphate of sodium grs. V. t. i. d. with apparent benefit. Theoretically phosphorus in some form is indicated. Under such treatment some will be cured, others will improve up to a certain point, and the wise physician will soon see when his patient has reached that point and will hand him over to the surgeon long before the disease has advanced to such a stage as will render an operation useless. I believe that every case of Graves's disease, when seen early enough, should be submitted to this rest treatment for two or three weeks before operation.

The operation carried out on my cases, as a rule, has been the removal of the larger lobe and the isthmus, though in two cases when both lobes were equally enlarged, I removed the whole gland with the exception of a small portion of one lobe.

I have had no experience in other methods of operating for Graves's disease, such as ligating the thyroid vessels or sympathectomy. As to the former, if the thyroid veins were included in the ligature, one would expect an immediate increased absorption of the glandular secretion through the lymphatics, and a consequent exaggeration of the symptoms. Again, ligature of the vessels would expose the patient to the dangers of gangrene; and besides, the deliberate exposure and ligaturing of the thyroid vessels would be quite as serious an operation as thyroidectomy itself. As for sympathectomy, I cannot see how the removal of the sympathetic ganglia can possibly cure a condition which (if my experience of 77 per cent. of cures by operation is of any value), must be caused by some abnormal activity of the gland itself.

Whether the disease be due to the secreting by the enlarged gland of some toxic substance other than the normal secretion, as was long ago argued by Horsley; or whether Graves's disease be merely an expression of toxic poisoning by a hyperactivity of the gland and an over-production of its normal secretion is still a debated point. In favor of the latter theory I would point out a fact that is very generally known, viz., that by feeding a healthy subject upon thyroid extract one can produce most of the symptoms of Graves's' disease.

Malignant Goitre.

In this condition complete and early operation offers the only chance for the patient. Unfortunately, a sufficient early diagnosis is not usually made, the neighboring glands being

already involved. Even in such advanced cases the patient may be made fairly comfortable by partial removal, thus relieving pressure and making possible a future tracheotomy.

I have done a thyroidectomy in only three cases of malignant goitre, all females. One who was also suffering from Bright's disease died a week later from uremia. It was at her own earnest solicitation that I operated in this case. The second case, an old lady of 70, died two weeks after operation of exhaustion following a long journey to her home. The third died of recurrence six months after operation.

Simple Goitre.

In a series of 66 cases of simple parenchymatous goitre operated on, I have had three deaths. The cause of these deaths are of interest:

Case 1.—A huge goitre in a girl, aged 17, which was causing very severe pressure symptoms, was easily removed. Twenty-four hours later, when I visited her, I found her extremely lively and clamoring for food. The nurse reported that the patient had been feeling so well all morning that it had been difficult to keep her in bed, and impossible to keep her quiet. Six hours after my visit she suddenly sat up in bed, screamed once and fell back dead. No autopsy was allowed. The cause of death was probably pulmonary embolus. This result impressed me with the wisdom of insisting in all cases and, especially where the operation field has been very large, that the patient shall remain perfectly quiet so far as the head and neck are concerned during the first 48 hours after operation.

Case 2.—Was an aged woman, with the largest goitre I ever saw, weighing 6¾ pounds when removed. The anatomical relations behind the gland were much disturbed and the adhesions were dense. In breaking down some adhesions, the much-displaced and attenuated esophagus was unfortunately torn across and she died three weeks later of inanition. Here, again, the lesson was learned that in all such extreme cases, a stomach tube should be passed and the esophagus carefully outlined before the final steps of the operation are undertaken. Had this been done in Case 2, the accident would not have happened.

Case 3.—Was a man aged 45, from whom the right lobe and isthmus had been removed two and a half years ago for Graves's disease. The remaining lobe had been injured some months ago and increased in size quite rapidly, so that he now returned to have it removed owing to severe pressure symptoms. The operation was difficult, owing to the cicatricial con-

tractions and adhesions, and the extremely vascular nature of the tumor. He did fairly well for 30 hours, with the exception of some difficulty in breathing. At that time he suddenly became cyanosed, respiration quickly failed and he died shortly afterwards. It looked like failure of the respiratory centre, but no autopsy was allowed.

I am aware that this mortality of 4.54 per cent. is too large, but I feel sure that at least two of such deaths would never occur in one's practice a second time.

I should like to detail a few points in the history of the last named case, illustrating the effects of operation on a typical case of Graves's disease. Mr. W., aged 42, presented himself in September, 1904, with a very large goitre, both lobes being involved, the right being the larger. The vessels of the gland were enormous, the thrill and bruit being marked. Exophthalmous and tachycardia were extreme, the pulse rate being 130 to 140. Tremor was very marked. Although a tall man, he weighed about 100 pounds. This man's history dated back for about a year, since when he has lost flesh rapidly and all the symptoms of Graves's disease have developed. His mental condition was bad. There has been a complete change of temperament. He has threatened his wife's life and his own, and was noisy, flighty, and at times vicious in temper. I removed the right lobe and isthmus, and he returned home within two weeks of operation. He returned to me in April, 1907. His weight was 160 pounds, and he had worked steadily since his recovery from the operation. Instead of the wild, excited picture which he had formerly presented, he was now quiet, self-controlled and mentally quite normal. The pulse rate was 82, the exophthalmos and tremor were gone, and he declared that he was in excellent health. Unfortunately, during the previous winter, the left lobe, which had become much reduced in size, had been injured in an accident, since which it had grown rather rapidly, and he returned to have it removed because it was kinking the trachea and thus interfering with his breathing.

Illustrating the class of cases described by Kocher, as thyroidea gravesiana colloides, is the following: Miss B., aged 44, has had a goitre for fifteen years, but paid no attention to it until one and a half years ago, when tachycardia and tremor began to trouble her. Steady loss of flesh ensued and now exophthalmos is quite marked. All the symptoms are more moderate than in the case of Mr. W. just quoted. Left lobe and isthmus were removed. She went home in three weeks and a steady improvement has resulted. Though she had been unable to work for a year previous to operation, she is now, three months after operation, doing light house-work and enjoying life.

The next case quoted clearly belong to the class of vascular goitres. W. J., aged 27, an Englishman, has been troubled with goitre for eight months. It interferes with his breathing, especially when he stoops. As he is a farmer, this prevents him from working. Thrill and bruit present and pulse rate 102 to 110. Slight tremor and muscular twitching. Exophthalmos is absent, but Kocher's sign is distinct, viz., sudden retraction of the upper eyelid when the patient is made to look steadily at his examiner. Right lobe and isthmus removed. Patient left hospital on ninth day. Four months after operation his physician writes to say that the man is quite well and working every day.

The Anesthetic.

I still use a general anesthetic, preferably chloroform, or a mixture of chloroform and ether, *administered by an expert.* We have always followed the rules mentioned in my former report[7] and in none of my cases have we had any serious difficulty.

The Technique.

The distinguished gentleman who is to open the discussion on Surgery to-day (Dr. Crile, of Cleveland), has done much to aid the surgeon in the carrying out of this operation by his teaching as to blood pressure and the use of adrenalin, while the elevation of the head and shoulders of the patient, especially in operations for Graves's disease, materially reduces the amount of blood in the field and the resulting hemorrhage.

The transverse incision is the one chosen in most cases, and the technique has changed but little during the last four years. There is one change which, perhaps, should be noted. Instead of transfixing and tying off the pedicle (which is usually the junction of the isthmus and the lobe to be left behind), I now tear through this pedicle with a blunt dissector and seize and tie any small vessels which may bleed. This is practically the only operation in which I use silk in ligating the vessels. The possibility of cat-gut ligatures slipping or untieing in a very restless patient and resulting secondary hemorrhage has so far deterred me from using it.

I am thoroughly impressed with the importance of another feature in the technique of thyroidectomy, viz., the avoidance of excessive manipulation of the gland during the removal. In some of the earlier cases where this rule was not carefully observed the convalescence was quite stormy. I am now convinced that this was largely due to hyper-secretion, caused by unnecessary manipulation; this, of course, being followed by undue absorption and the production of a toxic tetany. The

manipulations must be gentle and the various steps of the operation carried out in a precise and clean-cut manner.

In cases of cystic goitre affecting both lobes, my experience has shown me that it is not enough to remove one lobe and the isthmus, as cystic degeneration will continue in the remaining lobe. It would seem to be safer, after having removed the lobe most affected with the isthmus, to incise the capsule of the remaining lobe and enucleate every cyst to be found.

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SYMPOSIUM ON PUBLIC HEALTH MATTERS. THE MEDICO-LEGAL ASPECTS.

BY G. SILVERTHORN, M.D., TORONTO.

In all civilized countries there is some form of preliminary investigation when there is reason to believe that a deceased person came to his death from violent or unfair means, or by culpable or negligent conduct of himself or others, and not through mere accident or mischance. The necessity of such an investigation is recognized by all and should be held without delay and by competent officers and, if necessary, without anybody being accused and, in fact, it is to afford evidence of the necessity or otherwise of anybody being accused that the investigation is of greatest use.

The mode of conducting such an investigation varies in different countries.

Among English-speaking nations, as a rule, the office of coroner is charged with such. The coroner investigates by interviewing the persons concerned, examining the circumstances and surroundings, etc., and if he then considers an inquest necessary, he makes a declaration in writing as to that necessity, before a justice of the peace, summons a jury of not less than twelve men, swears them, then together they view the body. The coroner then examines witnesses under oath and the jury renders a verdict. There may or may not be a prisoner under arrest. The accused may be indicted on the inquisition without any presentation before the Grand Jury, but practically an independent inquiry is always held before a justice in the ordinary way.

Other Modes of Inquiry.

Neither the coroner nor his jury exists among the continental nations of Europe, and the modes of procedure in the case of bodies found dead by violence or unknown causes, in all continental countries, and in Scotland, agree in the absence of these officials.

In France, the investigation is conducted by two officers, whose functions are entirely distinct, a legal and a medical officer. The former, the procureur de la republique, an officer somewhat analogus to the district attorney, takes the initiative in each case, proceeds to view the dead body, summons witnesses, and takes the evidence. Liberal power is granted to him, and he can seize articles, or papers, connected with

any crime, restrains persons from leaving the premises, and employ experts and detectives, as the case may require. In the latter direction the French system is, beyond question, an unusually efficient mode of procedure.

The other officer, the medical, is selected for his superior training and knowledge, and has charge of the medical examination of the body. Sometimes two medical officers are employed. The medical officer is also still further associated with the subsequent prosecution of suspected parties when the legal officer has decided that a crime has been committed. His report must be signed by a police official and submitted to a magistrate. If the evidence presented to the magistrate is deemed sufficient, an indictment is prepared for the cour d'appel, and a trial may then take place before a jury.

In Scotland the process employed is similar to that of France. The procurator fiscal, who has the investigation in charge, has for his guidance a code of instructions drawn up by the lord advocate. This code also gives detailed directions to the medical men who have the charge of the medical examinations, two medical officers being employed in each case. The reports of these officials are sent to the office of the crown agent at Edinburgh, and by him are transmitted to the advocate deputé. If he decides that there is suspicion of crime, he refers the report back to the procurator fiscal for further investigation. If he is in doubt, he may bring the case before the crown officers. Beyond this, a criminal trial is much the same as in England.

In Germany, there is neither coroner nor any analogous officer, nor a jury, on the preliminary investigation. A judicial officer has charge of the proceedings (Staatsanwalt). His powers are like those of a district attorney. The police are under his control in all matters relating to the investigation of crime. They are also bound on their own part to investigate suspected crimes, cases of sudden or violent death, and no interment is allowed in such cases till after the consent of the district attorney or a competent court is obtained. Medical officers are regularly appointed to make autopsies and medical examinations and report upon them. The German code of regulations as to the modes of procedure in examinations of bodies, both judicial and medical, is very explicit. If the district attorney believes that a crime has been committed he institutes a trial, and if the court believes that sufficient reasons are presented, it orders a preliminary inquiry (gerichtliche Vöruntersuchung), before a justice, the result of which is usually decisive. (Law of October 1st, 1879.)

In Russia the law is similar in its provisions to that of France.

In Denmark the system is also very efficient, a judicial officer being appointed who has charge of all cases, which he decides without the intervention of a jury. He refers all medical questions to a medical officer, who is appointed for the purpose and reports to the judge the result of his examination, and autopsy, if one is made. He also makes a similar report to the Royal Bureau of Health. The trial which follows, in case of indictment, is first before the county judge, from whom appeals may be made to higher courts.

United States.—The laws relating to inquests in the United States all bear the marks of English origin, and were evidently introduced by the early settlers, with most of the peculiarities of the English law, though stripped of some of the singular customs of early times. The coroner, the coroner's jury, and the inquest, exist in nearly all of the United States, at the present time, practically in the English form. Massachusetts made a radical change, abolishing the office of coroner, and also the jury, in 1877, since which time inquests have been conducted with greater care and economy, and to the entire satisfaction of the people and of the State (See *Examiner Medical*).

Connecticut and Rhode Island have also recently enacted similar laws of a less radical nature.

In the other States there are certain points of difference, chiefly of minor importance, relating to the functions of the office of coroner, the mode of his election or appointment, his fees, the number of the jury and the employment of medical officers.

In a few States an inquest may be held in the case of a person who is seriously wounded, and in imminent danger of death. In Indiana, the jury was abolished by an act of 1879. In Texas, the inquest is also held without a jury.

After consideration of these various ways, it seems to me that a preliminary investigation by a properly trained medical man, such as a coroner should be, if necessary, followed by a subsequent investigation by him, with power to summon and examine witnesses under oath, together with an intelligent jury, is the best method of procedure. The usual objection to such is that of the inherent incongruity of an office requiring an expert knowledge of law and medicine. To my mind this objection is more than offset by the advantage of having the presiding officer of the court, one accustomed to the character of the evidence, as to the third part of the object of the inquiry, namely—"by what means" the person came to his death. "When" and "where" are not usually such intricate questions as to need great legal acumen. In Ontario we have the coroner's investigation and the coroner's court.

To my mind there is no just or sufficient reason for changing

the system, no cases of corrupt practice, injustice or outstanding incompetence having shown themselves. The results are, as a rule, reliable and trustworthy.

The main facts of the system here in Ontario, to my mind, are, first: The manner of appointment of coroners. Secondly, their inadequate fees. Thirdly, lack of discrimination in the appointment of medical witnesses to perform the post-mortem examination. Fourthly, their inadequate fees. Fifthly, the lack of any central authority who should be entrusted with the compilation, classification, and publication of the returns.

Appointment of Coroners in England.

The name of the office was derived *a corona,* since the coroner was at first a royal officer. For many centuries county coroners have been elective officers. The right of the counties to elect their own coroners is confirmed by the Statute 3, Edward I., 10. Municipal boroughs also elect their own coroners. Certain franchises also have coroners of their own, within whose precincts the county coroner cannot act. In such places the coroner is appointed by the lord of the manor, and in one English franchise the coroner holds office by hereditary right. There are fifty-five franchise coroners, and one hundred and seventy-five coroners acting for counties, or parts of counties. These are very unequally distributed. Middlesex, with about four million inhabitants, including the populous part of London, has five coroners, while the small county of Huntingdon, with less than sixty thousand inhabitants, has also five, and Dorset, also a small county, has eleven.

Every freeholder is entitled to vote in the election of coroner. No professional qualification is required for the office, the only requisite being that the candidate should possess a freehold interest in the county.

For more than fifty years, complaints with reference to ignorance, and culpable neglect in the management of the office have been so common as to direct popular attention to the necessity of reform; and while no comprehensive statute has been enacted with reference to such reform in England, the persistent efforts of prominent medical men have been so far successful that professional men are now usually elected to vacant offices.

A coroner usually holds office for life, but may be removed by the Lord Chancellor for misconduct or incompetence.

The county coroner receives a salary. He may appoint a deputy to act during his absence or illness. This deputy must be either a barrister, a solicitor, or a physician. The coroner is *ex-officio* a justice of the peace, and may, therefore, cause any

one suspected of murder to be arrested, even before the jury has found its verdict.

The modes of election in the different States are quite diverse. In Alabama, Arkansas, Colorado, Georgia, Idaho, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Nebraska, Nevada, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Washington, Wisconsin, and Wyoming the coroner is elected by the inhabitants of the county. In Tennessee he is appointed by the county court. In Virginia a county court appoints a coroner for two years and can appoint more if necessary. In Illinois, Indiana, Maine, and New Hampshire the governor appoints the coroner. In Texas, Vermont, and Utah, the office of coroner is unknown, a justice of the peace acting in all cases in which the presence of such an official is required.

In several cities of the United States, the coroner is a salaried officer, such being the case in New York, Philadelphia, Detroit, St. Louis, Cincinnati, Cleveland, Washington, Charleston, Wilmington (Del.), and other cities, a plan which has obvious advantages.

In Ontario coroners must be specially appointed by the Lieut.-Governor by commission under the Great Seal, unless, indeed, the Chief Justice and the other judges of the Supreme and High Courts in Canada are sovereign coroners *virtute officii,* in a similar manner to the judges of the corresponding courts in England. One or more coroners are first appointed for each county, city and town and for any provisional judicial, temporary judicial, or territorial district, or provisional county, or for any portions of the territory of Ontario not attached to a county for ordinary municipal and judicial purposes. The appointments are generally made upon the recommendation of a member of parliament, or other person possessing influence with the executive.

When one county separates from another the municipal law of Ontario requires the Lieut.-Governor to appoint one or more coroners for the junior county, whose appointments take effect on the day the counties become disunited.

With regard to the number of coroners for any county, city or town in Ontario, there is no regulation. The number not being limited, the appointments are in part governed by the requirements of the locality, and possibly in part by the energy shown by those seeking the office.

In Ontario, "provincial coroners," for purposes of holding fire investigations, are appointed by the Lieut.-Governor-in-Council under the Great Seal. As to these coroners, see further at p. 29 (Boys on Coroners).

Qualifications and Disqualifications.

Formerly, the office of coroner was of such high repute that no one under the degree of knighthood could aspire to its attainments, and in the reign of Edward the Third a coroner was actually removed from the office because he was a merchant! It has, however, now fallen from such pristine dignity; and though still of great respectability, no qualifications are required beyond being a male of the full age of twenty-one years, of sound mind, and a subject of His Majesty, and possessing the amount of education and mental ability necessary for the proper discharge of the duties.

These qualifications are no more than what all public officers by the common law are supposed, and ought, to possess. The coroner has often a very delicate and very important duty to perform, and it need hardly be said that the proper discharge of that duty depends almost entirely on his personal character and ability. Where these are deficient, scenes sometimes occur at inquests which throw discredit upon the office of coroner.

Coroners in Ontario are not competent or qualified to be justices of the peace during the time they exercise their office. But an exception is made in territorial and temporary judicial districts, where stipendiary magistrates may be appointed coroners for such districts. And provincial coroners appointed in Ontario for holding fire investigations are justices of the peace for every county and part of Ontario by virtue of their office. And a stipendiary magistrate for any territorial or temporary judicial district in Ontario may be a coroner for the district.

Before acting as coroner, the oath of allegiance and the oath of office should be taken, since holding an inquest without taking these oaths would subject the coroner to a penalty, although his acts would probably be legal.

From the above it would appear that in Ontario we must congratulate ourselves that the powers that be have recognized that only medical men should be appointed to the office of coroner. I would, however, suggest that the number should be limited and only those of a legal turn of mind be appointed. This would make for efficiency and be an encouragement for good and thorough work. In Toronto the experiment of appointing a chief coroner is at present being tried. To him are reported all cases, and he determines whether an investigation is to be held, and if so, appoints in rotation a coroner to undertake it. In certain class of cases he is debarred from acting, and then the County Crown Attorney appoints the acting coroner.

It would appear that the fees of a coroner in Ontario are

not adequate for the time consumed and the services rendered. I am informed that an association of coroners is in process of formation, and it is hoped that such representation will be made to the Government as will result in a modification of the existing law in regard to fees.

Appointment of Medical Witnesses to Perform Post-Mortem Examination.

In Ontario, if the coroner finds that the deceased was attended during his last illness or at his death by any legally qualified medical practitioner, he may issue his order for the attendance of such practitioner as a witness at such inquest. Or, if the coroner finds that the deceased was not so attended, he may issue his order for the attendance of any legally qualified medical practitioner, being at the time in actual practice, in or near the place where the death happened; and the coroner may, at any time before the termination of the inquest, direct a post-morten examination by the medical witness summoned to attend at the inquest. (Boys, 249.)

The practitioner chosen to make a post-mortem examination should be the best qualified the neighborhood affords. (Boys, 252.)

A second medical practitioner cannot properly be called by the coroner alone. The majority of the jury must ask for him, and name him to the coroner in writing. (Boys, 251.)

From the above it appears that the coroner has the greatest latitude in choosing who shall perform the post-mortem examination. Prof. Tidy states that if the medical attendant of the deceased is in any way inculpated, or his treatment called in question, or if any accusation regarding the death or treatment of the deceased has been made by a medical man, he should not perform the post-mortem, and that it is not advisable that he should be present at it, but he should be represented and name him to the coroner in writing. (Boys, 251.)

In some of the States in the United States, physicians are regularly appointed to perform the necessary examinations for coroners. If, then, the coroner always exercised his best judgment in the selection of the medical practitioner to perform the post-mortem, it would do much to improve the condition of affairs. The fees allowed the medical witness who performs the post-mortem differs from that of the medical witness without a post-mortem in that the former is allowed five dollars more for the first day at the inquest. In other words, the post-mortem is rated at five dollars. This sum is, in most cases, very inadequate, and when one considers the case of exhumation or a badly decomposed body, the absurdity is striking. Such a

fee is not enough to attract the most capable men, and so the coroner often hesitates to summon the most capable, feeling that he is to some extent, imposing a duty without adequate remuneration. No provision is made for a microscopical examination, which, in many cases, is to be deplored.

While advocating an increase in the fees allowed the coroner and the medical witness who performs the post-mortem examinations, we must not lose sight of the fact that the cost of investigations of this character should not be excessive. In many places this cost is easily ascertained, but in Ontario this is at present almost impossible, owing to the fact that there is no central authority to whom full reports are sent. Here in Ontario the depositions or evidence must be certified and subscribed by the coroner and caused to be delivered without delay, together with the written information, if any, and the inquisition, to the crown attorney for the county. In cases of manslaughter or murder, to a magistrate who will ultimately send them to the crown attorney. The crown attorneys then, all over the Province of Ontario, have in their possession the records, and are no doubt made use of only for legal purposes in each case where further action is taken.

In addition to this, coroners in Ontario are required to return lists of the inquests *super visum corposis* held by them during the preceding year, together with the findings of the juries, to the provincal treasurer, on or before the first day of January in every year. In regard to expenses in Ontario the coroner is supposed to pay them, and he can then present his account to the county treasurer for payment. In practice, however, each person makes out his own account, and after getting it certified as correct by the coroner, leaves it with the clerk of the peace. For an analysis, the coroner must apply to the Attorney-General for his sanction in order to have the amount paid by the Government. The coroner should give the medical witness an order for the payment of his fees on the treasurer of the city or county. In regard to the final payment of these accounts, I understand that the coroner's account is repaid to the municipality by the Government, but the fees for the medical witness is not so repaid. I am informed that in the city of Toronto, the number of cases investigated were, 1904, 3; in 1905, 71; County of York, 1905, 14; in 1906, 12; but whether these were only preliminary investigations or inquests is not stated. From this it is seen that it is not an easy matter to come to any conclusion as to the cost of the necessary work in this regard in Ontario.

To conclude, then, it seems to me that before we are in a position to properly discuss this question further and outline a scheme for the improvement of the conditions prevailing, it

is necessary for us to be in a position to ascertain the number of inquests held, the number of preliminary investigations held, fees paid to coroners, fees paid to medical witnesses, and in addition to have some system whereby the records may be accessible for study and comparison.

Discussion.

W. Arrell (Cayuga).—The present method of paying coroners is very unfair. If a coroner is asked to make an investigation in a case of death by a crown attorney he ought to be paid for this investigation, and if an inquest is held as a result of this investigation he ought to be paid for the inquest held. As the law now is, if a coroner makes an investigation and an inquest is held after, he is paid nothing for the investigation, although he may have spent days and driven many miles.

H. S. Bingham (Cannington).—Dr. Bingham opposed the election system in the appointment of coroners, and further supported the idea of the office of a coroner being filled by a medical man rather than a lawyer, etc., etc.

John Hunter (Toronto).—Would it not be advisable to somewhat widen the scope of the coroner. For instance, a patient may be apparently at least making favorable progress when suddenly a change takes place and death follows. The physician may be very desirous to ascertain the exact cause of death, but the relatives object. Could not some scheme be devised whereby the attending physician in sending out the certificate of death, might make some suggestion that could be acted upon by the coroner, and an autopsy held by a competent physician. The report of these autopsies should be filed, so as to be made use of by medical men. Some such scheme would furnish very much valuable information.

N. A. Powell.—The coroner's office in many States of the American Union is a reward for political services, and the result is what might have been expected. Massachusetts, disgusted with what had been seen, turned to the medical examination system, and it has been such a success that other States are now introducing plans for the investigation of violent deaths. Ontario, by the appointment of medical men only as coroners, and by requiring an oath as to the necessity for an inquest before a warrant is issued, has raised the status of these investigations and given us a system of which we do not need to feel ashamed. Still we could, with the greatest advantage, change to a system, in the main similar to that of Massachusetts, in which a legal expert, such as a junior county judge, investigates each case of suspicious death along lines in which he is capable of doing his best work, while an expert in pathology

investigates its strictly medical aspects, and so the ends of justice are swiftly and inexpensively furthered without undue publicity.

D. D. MacTaggart.—The Coroner's Court is essentially a Court of Record, according to the authorities on Criminal Law, and coroners should legally keep a record of all investigations held either with or without jurors.

The judicial acts and proceedings should be enrolled as a perpetual memorial and testimony. A complete record should be made in every case, and these records deposited in the vault of the nearest court house, and at time of making deposit the coroner should obtain a receipt from the clerk of the peace and crown or other official in charge. These returns should be made every month, so that contents of records may be of use to those requiring them.

I am of the opinion that the position of coroner should be filled by a legal man, who should have associated with him a medical examiner. In cases of violent death or sudden death without medical attendance, the medical examiner would be called and make the necessary examination. If he is satisfied that there is absolutely no evidence of crime, he makes such report to the coroner, who may then dispose of the case. But if, on the other hand, there is the slightest evidence of crime, then the coroner will exercise his judicial functions by calling a jury and witnesses and investigating the case. By this means the legal side is left entirely to lawyers, as it should be, and the medical examiner has only to deal with things medical. If medical men are appointed as coroners, they are often called on to act as judge and witness, and no man can fill the two positions.

My sugestion would be to divide the province into districts and have one coroner for each district, who should have a deputy to assist him and act as the clerk of the court. A chief medical examiner and assistants should be appointed for each district. The appointment of coroners should be made by the Lieut.-Governor-in-Council. Medical examiners should be appointed in the same way and should be selected from men who have had a large experience in autopsy and pathological work in order that correct results may be obtained.

The question of fees should be a secondary one. The first object is to establish a proper system with good appointments, and this having been done, the question of fees could then be taken up. In large centres, like the City of Toronto, a salary might be given, but in other places, where the work is not arduous, a magistrate could fill the position and be paid by fees.

Coroners' Association.—Following the suggestion I have made of separating entirely the legal and medical sides of the

question, I cannot see that a coroners' association would be of any benefit to the medical profession, but would suggest rather the formation of a Medico-Legal Society, the nucleus of such a society to be the Medical Examiners, and that this society either hold a meeting yearly of form a section of the Ontario Medical Association, and not take up homicide only, which is the only investigation that one has to deal with at a coroner's inquest, but take up also insanity, disability following injury and other matters of medico-legal nature, which are continually coming before the civil courts.

Analytical reports of the medical examiners could be compiled and submitted at the annual meeting. By this means a broad view of medico-legal matters is taken, and the results would be of benefit to the profession in general. As medical men, our duty is to find the cause of death—let the lawyers, acting on the side of justice, find out who is responsible for the death.

A NEW TREATMENT OF FRACTURE OF THE NECK OF THE FEMUR.*

BY W. E. GALLIE, M.B. (Tor.),
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It requires considerable courage to attack the subject of fracture of the neck of the femur in the face of the countless discussions that have taken place on this topic, and the unanimity of the conclusions arrived at. This fixity of opinion, however, has recently become much unsettled and several of the ancient traditions have been permanently unseated. It was formerly supposed that this particular type of injury was restricted to the feeble, fat and aged. Statistics, however, show that this belief was based on unreliable evidence and that although the injury is admittedly frequent in the old, it often occurs in the young and middle-aged. In Hamilton's cases treated at Bellevue Hospital but 37 per cent. were more than 60 years of age, and 40 per cent. were 50 or less. Whitman, in a paper read before the Johns Hopkins Medical Society in March, 1906, refers to 36 cases occurring in children and adolescents seen by him during the past few years, and Hesse (*Beitrage zur Path. Anat. und zur Allg. Path.*), recently tabulated 46 others.

One explanation of this unjustifiable belief can be found in errors in diagnosis. Of the 36 cases referred to, the majority had not been correctly diagnosed, the symptoms at the time of injury being attributed to contusion, and the disability following, to hip joint disease, coxa vara and other conditions. One case which came under my own observation and which I shall report to-night was first diagnosed hip joint disease. In *The Annals of Surgery,* November, 1902, Whitman reports five cases seen in one year in patients between 25 and 45 years of age, in not one of which had a correct diagnosis been made.

As a result of the conclusive evidence advanced it is now generally accepted that fracture of the neck of the femur is not restricted to the aged, and that it must be remembered in diagnosing the cause of disability arising from injury to the hip joint without respect to the age of the patient.

In consequence of the fact that up till recently the very great majority of fractures of the neck of the femur were seen in the old and feeble, and because it is known that to keep such patients in bed for any length of time in an efficient fixation apparatus is impossible, owing to the constant menace of hypostatic pneumonia,

* Read before the Toronto Medical Society, January, 1907.

efforts to secure the best results in the local condition are usually made secondary to saving the life of the patient.

When the condition is recognized in the young and middle-aged, the importance of obtaining firm union is so strong in the mind of the surgeon that he is willing to accept moderate deformity, loss of symmetry and restriction of the function of the joint, in his efforts to provide stability, and even with this object always in view it is within the experience of every one that non-union is of occasional occurrence.

It has been the frequency with which this latter misfortune occurs, and the number of patients one meets with who are partially crippled in vigorous life as a result of union in an incorrect attitude, that first stimulated Whitman to devise some new method of treatment that would give more satisfactory results.

The explanation of the unfortunate results that have been obtained is readily understood when we consider the pathology and treatment of the various types of fracture. It is customary to divide these fractures into two classes, the complete and the incomplete. This latter is frequently referred to as impacted, or of the greenstick variety. Complete fractures are found most frequently among older patients, while in the young the fracture is nearly always incomplete. It is this circumstance which in all probability accounts for the frequency with which the injury is overlooked in the young, as the impaction is often sufficiently strong to allow the patient to walk within a short time following the accident.

Another classification depends on the location of the fracture. When it is close to the femoral head it is known as intra-capsular, and when close to the junction of the neck with the trochanters, as extra-capsular.

The location of the fracture is of considerable importance from a standpoint of prognosis. When the fracture is intra-capsular it is more frequently complete and several inches of shortening may immediately result. The difficulty of securing correct apposition of the fragments, owing to their small diameters, is at once apparent, and we here have the true explanation of the frequency of non-union following fractures in this locality. It is sometimes claimed that non-union is more likely to occur here than elsewhere, because of certain nutritional disturbances in the smaller fragment resulting from the injury. This must be considered as only a partial explanation when one considers the difficulty of securing apposition and fixation of the parts by the ordinary plans of treatment. When the fracture is extra-capsular it is more frequently of the incomplete variety, and union is in consequence more likely to occur. The large cross-sectional area of the fragments is also in favor of union, even in those cases in which the fracture is complete.

The usual method of dealing with complete fractures is to put the patient to bed and to apply a long side-splint, extending from the axilla to below the foot. Traction of ten pounds or more is applied by means of the ordinary adhesive plaster extension apparatus. The splint is intended to provide fixation of the fragments and the traction to prevent and overcome shortening caused by the upward displacement. It must be apparent, however, that in the absence of antero-posterior support, movement at the seat of fracture must be quite free with every move-

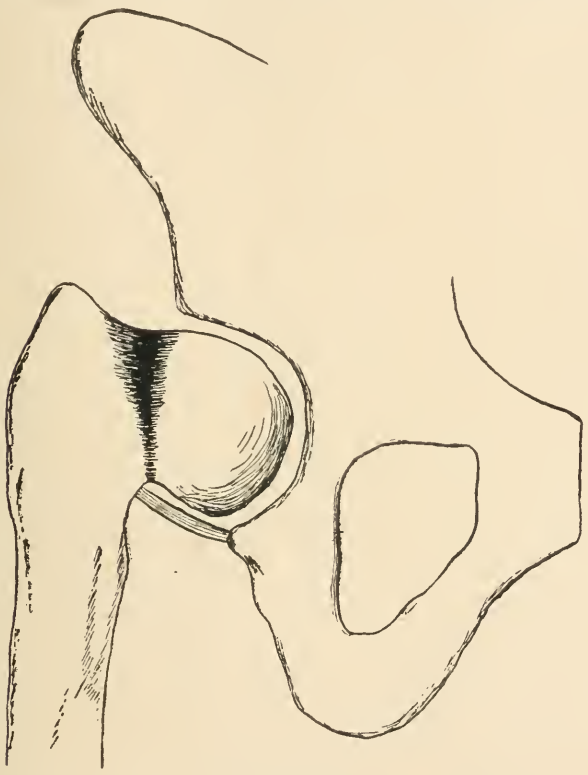


DIAGRAM A.
Illustrating the depression of the neck occurring in impacted fracture.

ment of the body, and in consequence the probability of union lessened. The traction also, in the absence of efficient splinting, and acting as it does upon a limb fastened laterally to a splint, is usually ineffective. This is demonstrated by the frequency with which an inch or more of shortening remains after the employment of this form of treatment. It is at once evident that the persistence of an inch or more of shortening, if the fracture be of the small part of the neck, practically precludes reunion, because in such cases the fragments are not in apposition. In

some instances the Hodgen apparatus is used or sand-bags are employed, but the principle is essentially the same.

If the fracture is of the impacted variety, the rules laid down for treatment are very definite. Practically every authority on fractures advises against disimpaction, the reason being that after such a procedure non-union is a frequent sequela. Thus, the general rule that fractures be treated so as to obtain a restoration of function and normal contour, besides firm union of the fragments, is not observed, and the whole energy of the surgeon is centred on obtaining solidity in the bone. Yet this surely condemns the patient to disability both from the external rotation and shortening that result, and from direct interference with the

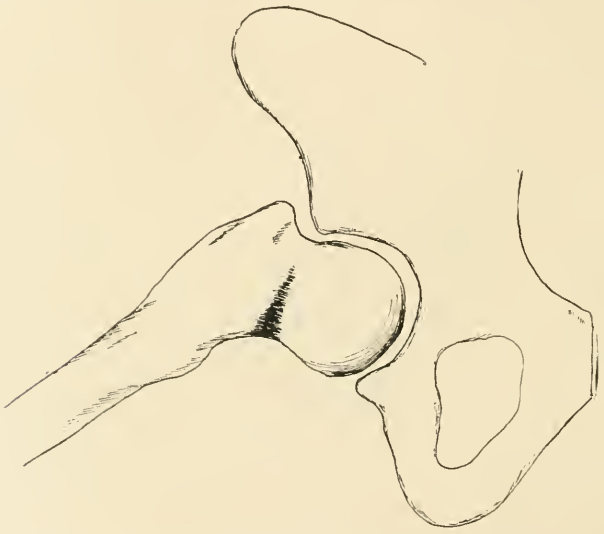


DIAGRAM B.

Illustrating reduction of the impaction by forcible abduction, the tip of the trochanter impinging against the side of the pelvis.

function of the joint. This latter is due, as a reference to Diagram A will show, to the depression of the neck which results from impaction. That is to say, the angle which the neck forms with the shaft of the femur is changed from an obtuse angle to something nearer a right angle, and in severe cases this becomes even less than a right angle. In consequence of this depression of the neck, the normal arc of abduction is greatly lessened, owing to the early locking of the trochanter against the side of the pelvis. Thus it is that slight shortening, combined with limitation of abduction when following an accident, is practically pathognomonic of impacted fracture of the neck of the femur. This limitation of abduction is usually progressive and leads in many instances to persistent flexion and adduction, a deformity

which causes much discomfort and disability. As Whitman puts it: "This distortion is induced primarily by the deformity; it is favored by the attitude assumed by the patient during the stage of weakness and repair, and it is confirmed by the accommodative shortening of the adductor muscles. It is probable also that the greater strain to which the depressed neck is subjected leads to further distortion and induces the nutritive changes of the osteo-arthritic character presented by museum specimens."

DIAGRAM C.

Illustrating the mechanical obstruction to abduction where union occurs after complete fracture.

These remarks also apply to those cases of complete fracture of the neck where firm union is obtained, for in practically all these cases union takes place with shortening, varying from ¼ to 1 inch, and to a corresponding degree there is depression of the neck of the femur. Besides the limitation of abduction resulting from the change in the angle of the neck with the shaft, there are also quite frequently irregularities in the line of union, as in Diagram C, and in the X-ray photograph, No. 1. It will be seen that any attempt to abduct the limb results in the early locking of

the neck against the upper rim of the acetabulum, quite similarly to what happens in the impacted cases.

The logical remedy for the evils arising from the present treatment of fracture of the neck of the femur would naturally be the restoration of the normal contour of the bones, combined with more efficient fixation. If the normal angle of the neck with the shaft could be restored the limitation of abduction would be removed, and the increased strain resulting from the depression of the neck, which always causes increased deformity, would be eliminated. The procedure by which this may be accomplished was devised by Dr. Royal Whitman, of New York, and the method seems to be a satisfactory solution of the difficulties surrounding the management of the injury.

It will be observed in the case of an impacted fracture, as illustrated in Diagram B, that if the limb be gently abducted,

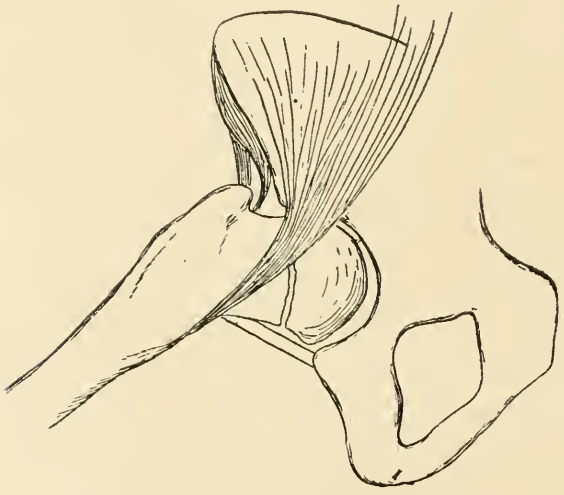


DIAGRAM D.

Illustrating the correction of the deformity by the abduction method. Note the tense inferior capsular ligament.

the trochanter quickly locks against the side of the pelvis. If now the abduction of the limb be forcibly continued, we shall have created a lever, with the fulcrum at the point of contact of the trochanter with the rim of the acetabulum, and by steady pressure we can break up the impaction and restore the normal angle of the neck with the shaft. In the same way in the case of a complete fracture (see Diag. D), if care be first taken to eliminate all shortening by traction, the normal angle can be restored by abducting the leg until the trochanters rest securely on the side of the pelvis. By this procedure also the probability of accurate apposition of the fragments is greatly increased, owing to the fact that the

tension on the inferior part of the capsular ligament when the limb is abducted prevents upward displacement of the outer fragment on the side of the pelvis and directs the neck down into the acetabulum. The possibility of upward displacement is also minimized by pressure exerted in a downward direction by the palm of the hand over the great trochanter. Frequently when this is done, in cases where the fracture is close to the head the outer fragment of the neck can be felt and heard to slip under the rim of the acetabulum with a distinct snap.

At Dr. Whitman's suggestion dissections and observations were made on eight cadavers by Dr. A. S. Taylor, Assistant Instructor in Operative Surgery in the College of Physicians and Surgeons in New York, with a view to determining the exact mechanical features of the operation. The joints were approached through a vertical incision between the tensor vaginæ femoris and the glutei, to the outer side, and the sartorius and rectus femoris muscles to the inner side. The mechanical effects of the soft tissues, therefore, could not have been influenced.

The neck of the femur was divided transversely to its long axis. The level of division in the different cases varied from the junction of the head and neck to the junction of the neck and great trochanter. The difference between the qualities of living tissues and those of the cadaver should be remembered.

The following observations were made:

1. Before dissection the limit of abduction varied from 45 to 55 degrees from the median line.

2. When the neck of the femur was divided the outer fragment underwent a posterior displacement (downward as the subject lay in the dorsal attitude), of ½ to 1 cm., combined with external rotation. In the cadaver there was no upward displacement such as occurs in the living.

3. Abduction to 45 degrees, combined with lifting forward of the upper fragment, produced and maintained good apposition between the fragments and gave the proper relation between the axis of the neck and that of the shaft of the femur. Abduction beyond 45 degrees caused separation of the fragments at the inferior border of the neck.

4. Abduction was limited by: (*a*) The inferior ligaments and capsule; (*b*) Impact of the posterior part of the great trochanter upon the soft tissues just above the acetabulum. Both of these obstructions seemed to occur simultaneously.

5. The observations held true, regardless of the level at which the neck was divided.

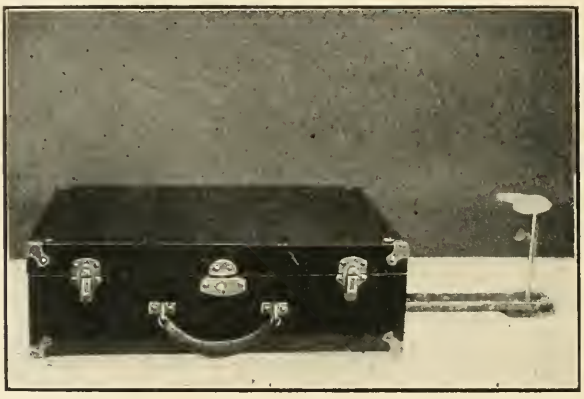
6. The outer fragment of the neck caught under the rim of the acetabulum and cotyloid ligament only when the line of division was close to the head of the femur. The head of the femur fills the cavity made by the cotyloid ligament and acetabulum.

7. Tension of the inferior capsule and its ligaments during abduction tended to cause spontaneous alignment of the fragments. This influence was more marked as the line of division of the neck approached the great trochanter.

8. Inasmuch as the fractured surfaces were rough, a slight amount of gentle rotatory manipulation, combined with some lifting forward of the distal fragment (see observation 2), gave best apposition.

9. Division of the capsule and ligaments inferiorly rendered reduction more difficult, inasmuch as there was a tendency to upward displacement of the distal fragment during abduction and the usual spontaneous limitation of abduction was largely absent.

From these observations the following deductions can be made:



Portable pelvic rest and plaster of Paris outfit for the application of spicas.

1. That in order that the most perfect apposition of the fragments may be obtained, the posterior displacement, resulting from gravity when the patient is in the recumbent attitude, must be remembered and provision made in the treatment by efficient antero-posterior support to prevent its occurrence.

2. That 45 to 55 deg. abduction is the best angle at which to produce and retain good apposition of the fragments.

3. That this method of procedure tends by the contact of the great trochanter with the soft tissues over the rim of the acetabulum and by the tension on the inferior part of the capsule to produce the most perfect apposition and alignment of the fragments and to retain them most securely in the proper attitude.

4. That in complete fractures more perfect apposition may be gained by a slight amount of gentle rotatory manipulation to allow the roughened fragments to adjust themselves.

The method of procedure is as follows:

The patient is anesthetized and elevated upon a pelvic rest of the type I have with me. The essential part of it is the steel sacral support which raises the pelvis from the table and does not interfere with the bandages as they are applied. The shoulders rest on a box or a pile of books, and the feet and legs are supported by assistants. The apparatus before you is a combination of conveniences which I was forced to devise because of the absence of hospital fixtures when one goes out into the city or country to apply a plaster spica. It consists of a box made like a suit-case, which is divided into two compartments by a partition. In one compartment is a canvas bag, which will hold about thirty four-inch plaster bandages. The other compartment is intended to carry flannelette bandages, silence cloth, cotton, scissors, strips of steel and basswood, plaster knives, seamless shirting and the pelvic rest. In the bottom of this compartment is a wooden slide, running the whole length of the box, which can be drawn out any required distance. On the end of this slide is a square steel plate, into the centre of which the upright bar of the pelvic rest is screwed. At the upper end, this upright bar is bored out to form a tube, and to fit this there are several sizes of sacral supports, made for the various sizes of patients. When the pelvic rest has been adjusted, the lid of the box is closed down and we are provided with an efficient support for the head and shoulders.

When the patient has been placed upon this pelvic rest, seamless shirting or stockinette is applied, extending from the foot to the axillæ. The operator then takes his stand beside the injured hip, with the object of adjusting the fragments. One assistant steadies the patient on the pelvic rest, and a second abducts the uninjured leg to the limit to demonstrate the normal range of mobility. A third assistant then grasps the injured leg and, if the fracture is impacted, gently but forcibly abducts the limb under moderate traction, breaking down the impaction and only stopping when an angle of 45 to 55 deg. with the normal has been reached. The operator in the meantime maintains a downward pressure on the trochanter with the palm of his hand to assist the capsular ligament in preventing upward displacement. He also gently lifts the trochanter forward and rotates the limb slightly inward to overcome the posterior displacement due to gravity when the impaction is reduced, and to correct the external rotation. The fragments are disturbed as little as possible, no attempt being made to elicit crepitus, for example, in order that the good apposition provided by the impaction may be retained. If the fracture be of the complete variety the third assistant first overcomes all shortening by strong traction, counter-traction being provided by a towel passed through the perineum, and then abducts the limb in the same way. The operator makes

every effort to adjust the fragments by lifting forward the trochanters and by rotating the limb gently to make the rough surfaces fit together. It is usually not difficult to know when the fragments are in good apposition, particularly if the fracture is near the head, as the reduction of the deformity can usually be distinctly felt. When the operator is satisfied with the result of the manipulations, the bony prominences are properly padded with silence cloth or flannelette bandages, an ample dinner pad is adjusted and a plaster spica is applied, extending from the toes to the mammary line. Care must be taken to mould the plaster well into the angle formed by the side of the pelvis and the abducted thigh, in order that upward displacement may be rendered impossible. Provision must be made also against posterior displacement of the outer fragment by moulding the plaster well in behind the trochanter, and by making it strong over the buttock by incorporating a pad of plaster about 6 in. square and 10 layers thick in this region. The spica may be reinforced at the points of greatest strain by strips of steel or basswood incorporated in the plaster. When the plaster has begun to set the edges are carefully cut and rounded off, so as to allow free movement in the uninjured leg and to prevent excoriation from the rough margins of the spica. The shirting is then drawn over the edges of the plaster and a covering of the same material is sewn over the spica. Thus a smooth, even surface is apposed to the body and pressure sores are altogether unlikely if the plaster has been carefully applied. An excellent plan for keeping the skin healthy is to thread the inside shirting with rough cotton bandages, after the suggestion of Lorenz, of Vienna. These bandages can be drawn over the skin daily in a see-saw fashion and the skin given the necessary stimulation to keep it in good condition.

This paper is not intended as a dissertation on the advantages of plaster-of-Paris as a dressing, for it is the main object of the writer to describe to you the mechanical principles involved in the treatment, without much reference to the retention apparatus. It may well be noted here, however, that no other splinting material presents so many advantages as the plaster. As a rule the support is comfortable if it is well applied. It permits the necessary movement of the patient and even transportation from one couch to another without fear of displacing the fragments. In fact, the use of the plaster spica in the treatment of children and adults is so common in orthopedic practice that further discussion of the subject is unnecessary. It is true that its proper application requires some care and skill, but not more than is demanded in any other surgical emergency.

Thus far the discussion has been confined to the treatment of children and adults up to middle-age. It seems reasonable to suppose, however, that if the treatment can be made tolerable, it

can be applied to a much greater age. Thus, in Mr. Cameron's service there occurred a case of an old man over 70 years of age treated by this method at the Toronto General Hospital by himself and Dr. C. L. Starr, in which firm union, with a good functional recovery, was obtained. Another case I was personally interested in in Brooklyn, that of an old lady of 200 lbs. weight and 65 years of age, and good function with firm union resulted.

In order that the treatment may be made applicable to the old, certain modifications must be introduced. It is not at all likely that an elderly person can be convinced that he is comfortable with a plaster extending up on the chest. He will complain bitterly of his inability to sit up, and of the sensation of restriction about the chest. To get over this difficulty it is a good plan to cut out that part of the plaster extending over the upper part of the abdomen and the chest. The long spica may, indeed, be wholly dispensed with, and the Lorenz short spica, which extends to just above the crests of the ilia and leaves practically three-quarters of the abdomen uncovered, may be substituted. This modification permits the patient to sit up in bed and largely overcomes the objection to the splint. In those cases in which the onset of hypostatic congestion of the lungs is a possibility the patient may be turned about and sat up in bed or a chair as was actually done in Mr. Cameron's case referred to above.

After the lapse of several days, by which time the plaster will have become perfectly hard, it is an excellent precaution if the patient is in the hospital to have an X-ray photograph taken through the plaster. In this way the exact attitude of the fragments can be ascertained, and in those cases in which the apposition is not satisfactory further procedures may be employed.

The best time for the application of the treatment is, of course, immediately after the injury, unless the bruising and laceration of the tissues are so great as to require local treatment preliminary to the application of a fixed dressing. In the latter case sandbags and traction might be employed until the swelling goes down. It is always better, however, to get the spica applied if possible before much swelling has taken place, as one may thus gain from ten days to two weeks in the length of time required for the treatment. The danger of constriction is extremely small, owing to the even pressure exerted on the tissues from the toes to the mammary line, and as a result the local effusion is rapidly diffused.

The after treatment is of considerable importance. If the long spica has been used, it may at the end of four weeks be shortened to allow free motion at the knee, and at the end of eight weeks the whole spica may be removed. At this time, if it is found that union is firm, massage and passive and voluntary motion may be employed. The limb should not be used to support weight for at least four months. The ideal treatment at this time is to provide

a hip-brace, which will permit functional use and yet support a part or all of the body weight while the patient walks. Where this is not attainable, the best routine plan is to use a light short plaster spica, holding the limb in moderate abduction. At first the patient uses crutches and then gradually resumes weight bearing.

As Whitman puts it: "A new treatment must necessarily appeal to reason rather than to experience, and to forestall a pos-

X-ray Photograph No. 1, of recent fracture of the neck of the femur.

sible criticism it may be said that it is not claimed that perfect apposition of the fragments is always possible, any more than it is possible in the treatment of fractures elsewhere. Neither is it claimed that union can always be obtained, or that the treatment can be applied in all cases, or continued in all cases after it is applied.

"It is claimed, however, that improved functional results are far more likely to be obtained after this than after any other form of treatment at present in use. The treatment is undoubtedly theoretically sound, experience has shown it to be eminently prac-

ticable, and whatever may be the outcome, the surgeon will have had the satisfaction of having at least tried to fulfil under the most adverse circumstances the requirements that are acknowledged to be essential to success in the treatment of the simplest fracture."

The number of cases that have been treated by this method is as yet rather limited. In the *Medical Record* of March 19, 1904, Whitman reports two cases. The first was in a boy 8 years

X-ray Photograph No. 2, of the same case three months later, showing complete anatomical cure following the abduction treatment.

of age, with incomplete fracture of the neck, seen in October, 1901. The usual symptoms of shortening, elevation of the trochanter, external rotation and limitation of abduction, combined with a history of a fifteen-foot fall three weeks before, made the diagnosis evident. The final functional result was perfect, and a skiagraph showed restoration of the normal angle.

The other case was a girl of six, who had fallen from a second-story window. The result was equally good.

In the *Therapeutic Gazette* of May 15, 1906, he reports

another case in an older patient who now walks without a limp, although there is still a slight degree of limitation of motion. In the same paper he describes several other cases. One, a complete fracture in a woman 30 years of age, in which the fracture had been overlooked because of other disabling injuries. The treatment, although not applied until twelve weeks after the accident, was followed by a firm union without limitation of movement. At the present time she still limps slightly, but it is expected that this will soon disappear. Two cases of impacted fracture in adults, one treated three weeks and the other ten weeks after the injury, resulted successfully, but the final functional results cannot be stated. One patient was walking about with the aid of a cane when she left the country. The other was discharged from the hospital wearing a plaster bandage and has not been seen since. It is reported, however, that he is perfectly recovered.

A case of fracture of the neck of the femur in a man 42 years of age, in which perfect functional recovery followed treatment by this method, has been recently reported by Asheroft (*Medical Record*, October 21, 1905).

At Bellevue Hospital practically all the cases on one surgical division are being treated after this method by Dr. John B. Walker, and I have been informed by him that the results are satisfactory. The cases have not as yet been reported.

Besides the Brooklyn case referred to above, I have one case which I wish to report to-night.

A girl about 14 years of age was admitted to the Hospital for Ruptured and Crippled in January of 1906, with a diagnosis of hip disease. The history stated that about three weeks before she had fallen heavily on the left hip and had been unable to rise. She remained in bed for a day or two and then began to walk. Since then she had had a marked limp, with considerable pain in the region of the left hip and knee. Examination showed outward rotation of the left leg, shortening and corresponding elevation of the trochanter to about three-quarters of an inch, and practically complete restraint of motion, particularly in abduction. The combined evidence of the history and physical examination led to a diagnosis of fracture of the neck of the femur, which was corroborated by X-ray photograph which I have with me. (No. 1.) The case was treated in the manner described and the skiagraph taken a few days later showed the direct apposition of the fragment. For two months she remained in the plaster spica and then the after treatment as rehearsed was employed. In four months she was walking again and an X-ray photograph showed complete anatomical cure. (No. 2.) For several months there was marked limitation of motion in the joint, but this has lately greatly improved. When seen last, in September of this year, eight months after the injury, she was a complete anatomical and practically a perfect functional cure.

169 College St., Toronto.

AN APPRECIATION OF THE WORK OF DR. HENRY J. GARRIGUES IN INTRODUCING ASEPSIS INTO OBSTETRIC PRACTICE.*

BY BROOKS H. WELLS, M.D., NEW YORK.
Professor of Gynecology at the New York Polyclinic Medical School and Hospital.

Mr. President and Fellows of the American Gynecological Society,—It is with the greatest diffidence and the greatest pleasure that I rise to speak before you to-day. Diffidence because of my unworthiness of the honor and pleasure that I may help to keep bright the laurel that gleams above a brow frosted and seamed by the snows of more than seventy winters.

In order that you may realize how great a thing was done when sepsis was driven by Garrigues from the New York Maternity Hospital in 1883, let me remind you that it is less in measure of years than the years of a strong man's life since Oliver Wendell Holmes, in his immortal essay on puerperal fever, said so bravely: "The time has come when the existence of a private pestilence in the sphere of a single physician should be looked upon not as a misfortune, but a crime." Five years later, Ignatz Semmelweis, a young assistant at the Vienna Maternity, was derided because he persistently held that every case of puerperal fever was caused by the absorption of putrid animal material.

These assertions of Holmes and Semmelweis marked the first gray gleaming of a dawn that, obscured then by the clouds of derision and apathy and the mists of imperfect knowledge, has gone on to the clear light of a glorious day. Now we know that puerperal fever is puerperal septic infection; we know how to prevent it, and we cannot shift the responsibility.

At the time of the epidemic at the New York Maternity conditions were different. The significance of the part played by the various bacteria was only beginning to be appreciated. It is true that Playfair in the fourth edition of his "Midwifery," issued in 1882, included all postpartum fevers under the head of puerperal septicemia; yet, he admitted, "there were facts difficult to reconcile with theory and for which we were unable to give a satisfactory explanation.

Gusserow, in the same year, in commenting on the factors influencing the mortality at the Maternity of the Charity Hospital in Berlin, admits that *locality* has not the absolute importance it was formerly supposed to have and that Semmelweis was correct

*An oration delivered before the American Gynecological Society at Washington, May 8, 1907. Published by courtesy of *Obstetrics*.

in defining puerperal fever as a wound infection. Thomas More Madden, at the meeting of the British Medical Association in August, 1883, held that it did not matter by what term we distinguish the malady, provided we recognize that there is "a specific infectious disease consequent on parturition," and that it is largely modified by the intensity of the septicemic condition, by the previous condition of the patient, and by the prevailing epidemic constitution of the atmosphere. He holds that large maternity hospitals would be desirable if they were only safe, but that in all hospitals where a number of women are confined together a "specific puerperal atmosphere" is necessarily created.

Kinkead, Professor of Obstetrics at the University of Dublin, taught that "such fever, from whatever sources arising, except septicemia, is a specific infectious disease," and that "it occurs epidemically and sporadically, like any other infectious disease."

In the winter of 1883-84, partly because of the dreadful conditions prevailing at the New York Maternity, the subject of puerperal fever was prominently before the profession. In a somewhat heated discussion before the New York Academy of Medicine in December of 1883, T. G. Thomas defined puerperal fever as "an infectious disease due, as a rule, to septic inoculation of wounds in the genital tract." He held that some toxic agent existed, but would not admit that the "round micrococci" could be important factors in its etiology. Polk thought Thomas should have planted himself squarely upon the view which regards puerperal fever as identical with septicemia. At a later meeting Fordyce Barker, who still clung to the old dogma of a specific disease, ridiculed these ideas. "Does every parturient woman," he asks, "in performing the function of maternity, like the scorpion that carries in its tail an agent for suicide if death be threatened by fire, physiologically generate an equally fatal poison in a corresponding locality?" If so, it seems to him evident that "the state should make childbearing a penal offense for families that did not have means enough to carry out elaborate antiseptic requirements."

It is seen by these references that while the bulk of the profession held more or less to the idea of a septic poison, there was much concerning the exact nature of this poison that was vague, for the science of bacteriology was yet young and the old idea of a specific puerperal fever was hard to kill. Stadfeld, at the Copenhagen Maternity, had used carbolic acid as a disinfectant in his wards since 1870 and similar measures were employed by most obstetricians. These early efforts, however, were but gropings toward the light and were only moderately successful. Outbreaks of puerperal fever still frequently occurred and there were still those who believed in the "epidemic influence of the air."

But the time and the opportunity were waiting for him who should have the clear insight and the courage to put aside the ancient dogmas of the established order and replace them by the new ideals of surgical cleanliness.

In 1881 the mortality at the New York Maternity Hospital was thought to be very low, as it was only 2.36 per cent. In 1882 it had risen to 3.25 per cent. In the first nine months of 1883, with 345 deliveries, 30 women died and the serious morbidity was enormous. In September the conditions were at their worst. Ten of the women delievered during the month died, about one in four, and the survivors escaped miserably with their lives.

At this time (October 1) the rotation of service brought Dr. Henry J. Garrigues again in charge. In the fulness of maturity, energetic, thoughtful, calm, he proved to be the man superior to the emergency. Appalled at the frightful conditions, he had already formulated and at once carried into effect a detailed plan for driving out the pestilence. This plan was original in its detail, showed a broad comprehension of the principles of asepsis, was brilliant in its achievement, and of far-reaching influence on the practice of obstetrics. In brief it was this:

Rapid alternation of wards was secured, so as to allow frequent fumigation with sulphur, followed by scrubbing with soap and water and by a 1-1,000 bichloride solution. Fresh bedding was furnished at each change. The floors were sprinkled four times daily with the bichloride solution. All visitors were rigorously excluded. Doctors and nurses employed in the maternity were not allowed to enter the other hospital wards or the dead house. The patient had a bath and clean linen beforehand and on entry to the delivery room the abdomen, genital region, buttocks, and thighs were washed with soap and water and then with bichloride solution. The vagina was irrigated with two quarts of the solution from a glass fountain syringe with glass nozzle. The rubber sheet on the delivery bed was frequently renewed and washed before each delivery with a 1-1,000 solution.

No vaginal examination was allowed except after the hands had been thoroughly scrubbed with soap, hot water and a stiff brush and soaked in a hot 1-1,000 bichloride solution.

When the head appeared at the vulva a piece of gauze soaked in the bichloride solution was applied and kept there. After the expulsion of the child the genitals were kept covered by a similar compress. The placenta was expressed by Credé's method, so that it might not be necessary to introduce the finger inside the vulva. If it was necessary to introduce the finger to remove placenta or membrane the vagina was washed out, otherwise not.

Intrauterine injections were used only when the hand or in-

struments were introduced into the cavity of the uterus, or after the birth of a macerated child. After the expulsion of the placenta the vulva and adjacent parts were washed out with the solution and the vulva covered with a huge gauze compress wet with the solution. Before each washing the nurses disinfected their hands as before labor. No vaginal injections were used except in fetid lochia. Every substance brought in contact with the genitals was soaked beforehand in the solution.

There are some of you who may remember the ridicule or skepticism that greeted the announcement of these measures; there are many more of you who remember how the pestilence gathered its terrors to itself and fled away in a night—and it has never returned.

On December 21, less than three months later, Garrigues, in reporting the result of his work, was able to say: "The effect of the treatment has been wonderful. As if by magic all trouble disappeared.. Ninety-seven women have been delivered since its introduction and not only has none of them died, but there has scarcely been any disease among them—only three had any rise of temperature. The pavilions are scarcely recognizable. Where we used to have offensive odors, feverish, prostrated, or despairing patients, overworked nurses, and despondent doctors, the air is pure, the patients look well, their temperatures are normal, the nurses are cheerful, and the doctors happy."

Could there be a greater triumph than this? Was ever greater lesson taught more quietly? What battle of the greatest general of the world's red fields was ever fraught with consequences more momentous?

The lesson was taught to the world, and the world has heeded it well, for even to-day we acknowledge its influence. "Peace hath its victories far more than war," yet we do not beat the drums when lives are saved, or sound the bugles when disease is made to flee. The world has ever held him the hero who has led victorious armies in triumph across fields strewn with dead and dying men. Is he less worthy to be called a hero who has led victorious against the legions of death?

Garrigues, the man who saved and taught us how to save the mothers of men, lives to know we know the value of his deed; lives to know the place of honor he holds in the hearts of his fellows; lives in the pulsing blood of happy wives and mothers, and has an immortality in thousands yet unborn.

The Canadian Journal of Medicine and Surgery

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Editorials.

ANNUAL MEETING OF THE ONTARIO MEDICAL ASSOCIATION.

THE 27th annual meeting of the Ontario Medical Association was held in the Medical Building, Queen's Park, Toronto, May 28th, 29th and 30th. Two hundred and forty-four persons registered their names, forty-three being new members. A few general observations on the meeting will be made in this article. In

a Symposium—The Profession in Relation to the Public, the regulations as regards coroners were discussed by Dr. G. Silverthorn, Toronto, and several suggestions were made, though on the whole the present system was endorsed. The smallness of the fees which a coroner could pay for medical work was objected to. A coroner, he thought, should possess a certain amount of legal knowledge. Post-mortem examinations, should, in cases in which there was no suspicion of foul play, not be held.

In discussing "The Public Health Aspects of Medicine," Dr. McCullough, Alliston, advocated an amendment to the Ontario Public Health Act, providing fair salaries for medical health officers, who should be responsible to the Provincial Board of Health for their districts. His second point was a suggestion that fees should be paid to physicians for reporting cases of contagious disease. He favored compulsory vaccination and revaccination. He also advocated closer organization of the Ontario medical profession, who, at present, were unable to protect themselves against unjust prosecutions and suits.

By resolution of the Association, the Committee of Public Health was requested to take such steps as are deemed best suited to bring about a system of county medical officers.

Dr. C. K. Clarke dealt with "Ideals for Asylum Work in Ontario," referring to the new Psychiatric Clinic which is to be established at Toronto. He stated that in future medical qualifications would be considered in all appointments to the medical staffs of asylums.

A resolution was passed favoring the establishment of an institution to which inebriates could be legally committed. A committee was appointed to see that the suggestion was brought to the attention of the Provincial Government. This matter rose out of a paper read by Dr. Edward Ryan, Kingston, who was supported in the discussion by the Honorable W. R. Riddell, Toronto; W. C. Barber, Kingston, and A. T. Hobbs, Guelph. Dr. G. A. Bingham took as the subject of the Presidential address, "Goitre and Its Treatment," and was accorded a hearty vote of thanks for his paper. Dr. G. W. Crile, Cleveland, was also warmly thanked for his valuable paper on "Clinical and Experimental Observations on the Direct Transfusion of the Blood." Dr. Ravenel, Philadelphia, read a paper on "Methods of Infection in Pulmonary Tuberculosis," in which, in addition to infection through

the respiratory tract by sputum, he referred to tubercular infection conveyed through the digestive tract. He also mentioned the induction of immunity to tuberculosis through infection communicated, in small doses, at sufficiently spaced intervals.

Dr. A. J. Richer, Ste. Agathe, Quebec, advocated in a paper on "Immune Therapy in Tuberculosis" the use of tuberculin in incipient cases of the disease, as well as in those not too far advanced, while in healthy subjects the use of tuberculin conferred immunity to, or revealed the existence of, tubercular disease.

On the motion of Dr. Anglin, Kingston, seconded by Dr. Bruce Smith, Dr. J. Harrison, Selkirk, and Dr. J. H. Richardson, Toronto, were elected honorary members for life of the Association in recognition of their long and eminent service to the profession.

The following notice of motion was given by Dr. A. H. Wright, Toronto: "That the Ontario Medical Association desires to give expression to its hearty approval of the proposal by the Government of Ontario to establish psychiatric clinics to work in conjunction with hospitals for the insane in the Province; that the Association also respectfully requests the Government to establish a Lunacy Commission or Board of Alienists, who alone shall give expert evidence in the courts of law as to sanity and insanity, and also to institute reforms in the civil service whereby promotion for merit shall take place, and especially to make a rule that no one shall be appointed a superintendent of any hospital for the insane until he has had some years of training in the service."

The festivities of the gathering were of a quiet character. A smoking concert was held at St. George's Hall on the evening of May 28th. The programme included a lecture by Dr. J. F. W. Ross on his trip to the Soudan, illustrated by lantern views from photographs. Musical selections were rendered by a male quartette.

The dinner of the Association took place at the King Edward Hotel on the evening of May 29th, the President, Dr. G. A. Bingham, occupied the chair. The invited guests were the Lieutenant-Governor of Ontario, Mr. Mortimer Clark, Major Macdonald, Aide-de-Camp; the Honorable W. R. Riddell, Toronto; Dr. G. W. Crile, Cleveland, and Dr. M. P. Ravenel, Philadelphia. One hundred and twenty-six gentlemen were present.

The next annual gathering is to be held at Hamilton.

The following officers were elected for the ensuing year: President, Dr. Ingersoll Olmsted, Hamilton; First Vice-President, Dr. H. J. Hamilton, Toronto; Second Vice-President, Dr. D. E. Mundell, Kingston; Third Vice-President, Dr. C. E. Casgrain, Windsor; Fourth Vice-President, Dr. T. S. T. Smellie, Fort William; General Secretary, Dr. C. P. Lusk; Assistant Secretary, Dr. S. Johnston; Treasurer, Dr. F. Fenton.

J. J. C.

AMERICAN MEDICAL ASSOCIATION AT ATLANTIC CITY.

The fifty-eighth annual session of the American Medical Association was held in Atlantic City, June 5th to 8th. Three times since the Association has turned hoary-headed with the dignity of years has it gaily hied itself to the City of Sunshine by day, and a million electric stars by night. Truly the City of Light down by the sea. And as children bring their smiles and find love awaiting them in this world, so the genial men who compose the American Medical Association bring not only their ideas and conclusions on matters of scientific interest, but their own splendid personality, making it a joy to meet and mingle with them. A few days previous to the larger Association's convening, the American Medical Editors' Association held one of its best annual meetings. Its president, Dr. Pilcher, Editor the *Military Surgeon*, held his audience charmed and convinced by his eloquent address. Its secretary, Dr. Joseph Macdonald, of New York, the personification of a spark from the anvil—we think the word graved on his family's ensign must be "Alacritas." The papers were all of great interest to medical editors and publishers, and many wished the hours longer for the discussion of many suggested topics. The new president, Dr. Charles Taylor, of Philadelphia, editor *The Medical Council*, was duly escorted to the chair at the close of the session. The quiet, gentlemanly bearing of Dr. Taylor should prove a wonderful "coat of mail" where the sharp thrusts of criticism of the Knights of the Quill (who see things so clearly) need occasionally the ruling of the editor-in-chief's blue pencil. The banquet was perfect in detail and the after dinner speech and story—well, "we were at the party, and we won't tell." Then dawned June fifth, with Atlan-

tic City at its best, a glorious day for the opening meeting of the American Medical Association, held in the big ball-room of the new million-dollar pier. The band, playing a medley of familiar airs, everybody meeting and greeting somebody with "delighted" —then a hush, and small but mighty Dr. Mayo, the Mayor of Atlantic City, and the "chosen" from the tribe of the elect physicians from up and down the land, ascended the stage. Stern Dr. Billings, to offset a sweet-faced child-man from Hamburg, Germany; Montreal doing herself proud in the person of Professor Adami; Dr. Philip Marvel, the man who "does things," of Atlantic City; Drs. Murphy and Ochsner, of Chicago; Dr. Reed, of Cincinnati; Dr. M. Wright; and beaming on all was Dr. Marcy's (Boston) smile, benign enough to be truly a song without words.

But upon the two, Dr. Mayo, the President, and Dr. Bryant, the President-elect, the interest was focussed. A great contrast, physically, but, in the medical world, great men both. Of such Ernest Renan has said: "Humanity moves onward like an army. Great men are the advance scouts; the bulk of the army follows, more or less near. This is why great men are not usually known in their century; they are ahead. The laggers are not known either . . . for the opposite reason."

Dr. Mayo's name is known by his work far and near. In person he is tense, like a piece of tempered steel, with his active brain packed in ice, a man of nerve and fortitude; in short, a surgeon, chiselled from marble-clay by the hand of the great Artist of Life.

Dr. Bryant, large, strong, forceful, of commanding presence, betraying a touch of Irish origin, we would venture to surmise from the fine oratorical style that has braved the battle and the breeze, in which he delivered his eloquent yet carefully worded address. He urged the elevation of the standard of medical education; his comparison between the Chairs of Theology endowed in the universities and those endowed in the interest of medical education was indeed pointed. If our memory serves us, "eighty-three for the souls of men in the hope of Celestial expectation, and only five for the bodies of men and the outcome of terrestrial reality."

The value of medical journalism was spoken of and the great lay journalism should be "the voice of the multitude proclaiming its will. It is, or it should be." The general tone of the physician's life and the sphere he moves in, the courtesy due from one

to another was dwelt upon. Dr. Bryant said: "Where all are selfish, the sage is no better than the fool, nor more dangerous." The pure food law, the medical inspection of school children, the appalling number of those afflicted with eye trouble, 13 per cent., and the number of mentally defective, the requirements of a National Board of Health and the great white plague, are a few of the salient points dealt with in a convincing way by Dr. Bryant. In his appeal for the co-operation of the powers that be, he said: "In this glorious country the will of the people is the law of the land, eighty-four millions of people—in their eyes how are we and our cause regarded?"

Every one of the sections were well attended. A few of the Toronto men who were humming birds gathering honey from section to section were Dr. N. A. Powell, Dr. G. W. Ross, Dr. Treble, Dr. Wishart, Dr. Trow, and another, an ex-Canadian and old McGill man, who delights in memories of Canada, Dr. Lane, now of Syracuse, N.Y. A unique party were the young ladies who are the medical librarians in the various large cities in the United States. They plied Dr. Powell with a hundred questions as to our medical library in Queen's Park, knowing that he was one of its founders. Nothing dismayed, the sage of our bookshop answered them all, and, on good authority, we learned he illustrated his answers by song and story, so they might be remembered as valuable data.

Chicago has been chosen as the meeting place of the American Medical Association next year. We are already bound by many a kind invitation to "come next year, sure." To miss the inspiration of that large community of mind we feel would indeed be a hardship. We might scribble paragraphs telling our Canadian confreres of the privilege and pleasure of a visit to the American Medical Association, but, to put it in a nutshell, as a shrewd old Yankee said to his son who was trying to study his geography lessons from a map, he said, "Hiram, just you listen unto me; that's all very good, but the best way to learn geography is to go thar."

W. A. Y.

A SUCCESSFUL TREATMENT OF GLANDERS.

In the *International Medical Annual,* 1906, Dr. E. W. Goodall shows the difficulty of diagnosing glanders, the diseases for which it is most likely to be mistaken being pyemia, acute rheumatism, typhoid fever, acute pneumonia, cellulitis, influenza, and smallpox. One of the most suspicious clinical signs is intramuscular suppuration; another is the formation of pustules on the skin; a third is a purulent discharge from the nose. A bacteriological examination of pus from the abscesses should be made in a suspected case in order to ascertain if the bacillus mallei is present.

In the *Lancet,* February 3rd, 1906, p. 288, Louis Woodcock published an account of a case of glanders. The patient was a man aged thirty-seven years, a porter in the meat market. The illness began on December 1st with pleurisy, which lasted ten days. The man then resumed work, but, on December 16th, while out walking, was suddenly seized with severe pain in the left leg, for which he was treated for three weeks as a case of acute rheumatism. He was then sent to a hospital, where he was found to have subcutaneous and intramuscular swellings. Other joints became affected and cellulitis and pustules appeared in different places. The patient died comatose on January 24th. From fluid obtained from the right knee joint on January 23rd the bacillus mallei was obtained.

In reference to treatment, Dr. Goodall says that little can be done except to relieve symptoms. The patient should be isolated, and great care should be taken that his attendants do not contract the disease.

In *La Presse Médicale,* 1902, 11 Octobre, No. 82, MM. Nicolle and Dubos published an account of a case of human glanders, ending in real or apparent recovery. Since the date of the publication of their first paper, up to March, 1907, when they published a second one, relating to the same case, this patient has been under their observation. As the cure has been complete and positive, they now feel justified in claiming it as a genuine and lasting cure of glanders.

A resumé of their case is as follows: July 4th, 1901, H. L., aged seventeen years, good constitution. When working in the

fields he felt that there was a foreign body in his left eye, and rubbed the part smartly with his hand. His father, who was present, examined the eye, but could find nothing wrong. On getting up the next day the patient noticed a small, painless, subcutaneous nodule in front of his left ear. Two days afterwards a large mass appeared beneath and behind his left jaw. The patient's general condition was excellent. After twelve days a swelling appeared in the deeper part of the calf of the left leg. All these swellings rapidly increased in size without being accompanied by inflammation and without causing any general reaction. As two horses on the farm were sick, their cases not having been fully diagnosed, the attending physician thought that H. L. might have caught glanders. Experimental inoculation into a male guinea pig of pus drawn by puncture from the swellings in the leg and neck, cultures of the same and microscopic examination confirmed the diagnosis of glanders. The farcy buds were destroyed August 7th by Professor A. Martin, of Rouen; the operation gave a temporary improvement; but was followed by a relapse in the same places. The medical treatment: over-feeding, rest, life in the open air, cacodylate of sodium only caused an arrest in the course of the disease. At the beginning of the third month, without waiting for an appreciable result from the medical treatment, we decided to inoculate the patient with the serum of a heifer (bovines being refractory to glanders). An injection of heifer serum was given every six days, the dose being at first 5 and afterwards 10 cubic centimetres. Altogether 190 cubic centimetres were injected in two and a half months, from September 11th to December 27th. The symptoms improved rapidly after the first inoculation; the farcy buds were absorbed, one after the other; the consecutive ulcerations healed; small lymphatic masses, which had developed at different parts of the organism (both sides of the neck, prethyroid region, etc.), disappeared. The cure was completed before the end of the third month, six months after the beginning of the attack. During the duration of the infection the patient exhibited only occasionally a fibrile movement (100 2-5—101 deg. F), and his general condition remained excellent."

A resumé is given of the published cases of cures of human glanders recorded in French and Swiss medical literature dur-

ing the last seventy years (1837-1907). Twenty-nine cases are mentioned, the majority being of doubtful value, as experimental studies were only made in seven cases, and the cases were not observed or followed up for a sufficient time after the disappearance of the lesions of glanders. According to Drs. Jeanselme and Hollopeau a relapse, not caused by a new infection, may occur in a case of glanders, after a complete remission of three years. Admitting, say Drs. Nicolle and Dubos, that all the cases of glanders, claimed as cures, were really cases of glanders, which has not been proved, we can only accept, as indisputable cures, cases which did not relapse for over three years after the beginning of the infection. There are six of them, which, with our case, makes a total of seven cases during the last seventy years. Brief memoranda of the six other cures are given. The conclusions of Drs. Nicolle and Dubos are as follows:

(1) Glanders in man, though the cures are exceptional, is not absolutely fatal, and this fact should be weighed in making a prognosis or arranging for treatment.

(2) Farcy, up to the present time, is the only curable form of glanders; internal glanders appears to be always fatal.

(3) In treating a proven case of glanders a physician should recall to mind the agents employed heretofore in the few successful cases—arsenic, mercury, over-feeding, open-air life, cauterization of the nodules, and particularly early and complete excision of the nodules. The smallest bit of glandered tissue should be excised.

(4) In addition we advise the injection of bovine serum. We do not contend that our patient owed his positive recovery to this agency, but we cannot regard the injection of bovine serum and his recovery as mere coincidences. The disease is most fatal; the cure is simple, harmless and should always be tried.

J. J. C.

EDITORIAL NOTES

Purity of Canadian Butter.—Bulletin No. 133 Butter, 1907, Laboratory of the Inland Revenue Department, Ottawa, Canada, shows that, with few exceptions, and these confined to Quebec, Canadian butter is free from sophistication. The following is the official report of Dr. Thomas Macfarlane, Chief Analyst:

Name of District.	Genuine.	Doubtful.	Containing Foreign fat.	Total Number collected.
Nova Scotia	50	0	0	50
Prince Edward Island	50	0	0	50
New Brunswick	50	0	0	50
Quebec	106	0	6	112
St. Hyacinthe	150	0	0	150
Montreal	198	0	2	200
Ottawa	49	1	0	50
Kingston	46	4	0	50
Toronto	100	0	0	100
London	50	0	0	50
Manitoba	7	0	0	7
British Columbia	12	0	0	15
Total	868	5	8	881

Analyses made by Dr. J. T. Donald, Montreal, showed that the eight adulterated samples of butter contained little, if any, butter fat.

Opium Smoking in the East.—Japan and China have instituted repressive measures against opium-smoking. In China the habit is to be broken gradually; Japan is more radical in her methods, and inveterate opium-smokers will be obliged to pay heavy fines or suffer imprisonment with hard labor. The United States Government has begun a repressive campaign against it in the Philippine Islands. Great Britain and France are considering this question; but, so far, neither of these Governments has adopted repressive measures. Opium-smoking produces in the races of the East effects even more destructive to life and health than those noted among the white races from the abuse of alcohol. E. Jeanselme gives a vivid description of the psychology of the confirmed opium-smoker in Révue Générale des Sciences, 1907, No. 1, p p. 19-36, a translation of which is herewith given: "You can recognize him at a glance—silent, sullen, nerveless, chary of movement, his pale face and puffed features spell sadness and suffering. Heavy, drooping, rheumy eyelids

shadow his expressionless eyes. He is troubled with an itching of the skin, and tortured with insomnia. With lessened sensitiveness to pain, his muscular strength is diminished and he breaks into a perspiration at the slightest exertion. Slow and uncertain of movement, he walks in a hesitating fashion. His pulse and breathing are slow and irregular in rhythm. The salivary, biliary and urinary secretions are diminished in quantity. The bladder acts hesitatingly and is only partially emptied. Add to these conditions a dry throat, a burning thirst, a coated tongue, a lost appetite, and obstinate constipation. In spite of the erotic dreams excited by opium, virility declines rapidly and the lamentable agony ends in death." Jeanselme sums up his article by saying: "Brutishness and precocious senility in the individual, poverty and dishonor in the family, lowered vitality and degeneracy in the race, an increase of crime in society, impoverishment and famine in the State are the consequences of opium-smoking." It is said that several resorts for opium-smoking are in operation in Paris, France.

Applications of Iodine to the Endometrium in Puerperal Affections.—At the eleventh congress of Obstetrics, Gynecology, and Pediatrics, held at Algiers, April 1-16, 1907, Dr. E. Cabanés gave his treatment of puerperal sepsis (35 cases). After doing curetment, or not doing it, according to the case, the iodine dressing consists in introducing into the womb of the patient a strip of gauze, which has been soaked in tr. idodine, or preferably a 4 per cent. solution of iodine. This dressing is renewed twice a day. It quite dries up the lochia, and drainage of the womb becomes, so to speak, useless. All the bad cases of puerperal sepsis recovered in six days. In most of the cases he had treated sepsis had existed for several days; in some of them for twenty or even sixty days. Dr. Cabanés' conclusions were: (1) The iodine dressing of the septic uterus produces no ill effects; (2) it is a sure and effective method of controlling puerperal infection; (3) it should be applied twice a day; (4) puerperal metritis yields to it in a few days; (5) it stops the evolution of septicemia at the very beginning; (6) it is useful in generalized septicemia, by suppressing the focus of infection; (7) this treatment may be useful in certain cases of plastic pelvi-peritonitis with subacute tendencies by suppressing the uterine centre of bacterial and toxic products; but, a proiri, in such

cases, the necessary manœuvres must be made by the surgeon with the greatest circumspection.

Hysterical Myoclonus Cured By Suggestion and Milk-Isolation Treatment.—In Clinical Studies, Vol. 5, Part 3, Dr. Byrom Bramwell publishes a clinical lecture detailing the history, symptoms and treatment of a case of hysterical myoclonus in an unmarried woman, thirty years of age. She had suffered from this condition, more or less continuously, for two and a half years. It began in South Africa, and was, she said, the result of nervous shock and fright. The jerking movements affected all parts of the body—muscles of the face, neck, limbs and back, and were very violent in character. They were irregular in rythm, quick in time, and caused violent jerkings and jactitation of the different parts of the body. They occurred when she was lying at rest in bed, when she was sitting up, and when she walked. She was hardly able to walk without support, because of the violence of the jerkings. The movements ceased during sleep and were intensified by mental excitement and agitation—coming before the doctor, etc. On examination no evidence of organic disease, either in the nervous system or elsewhere, was detected. As she did not improve at home she was advised to enter an hospital. After entering the hospital she was emphatically told that there was no organic or serious disease, that the condition was curable, that the doctor would and could cure her in the course of a short time. Her bed, in a large ward, was surrounded with screens, and she was not allowed to hold communication with anyone, except the nurse and the doctor (isolation). She was fed on large quantities of milk. Massage was employed and hypodermic injections of H_2O were administered. After three weeks of this treatment the spasmodic jerkings subsided. The patient was made to walk up and down the room before the students; she did so steadily and well. In discussing the exceptionally fine result obtained in this case, Dr. Bramwell stated that isolation and milk diet did not constitute the treatment, they are only means to an end. The real and essential basis of the whole treatment is to impress the patient with the confident belief that you can and will cure her, and to continue to keep up the impression until a permanent cure, not merely a temporary improvement, is effected.

Amputation of the Thigh Under Hyoscin-Morphin-Cactin Anesthesia.—Henry G. Ebert, Marine Hospital Service, U.S.A. in *The Military Surgeon,* May, 1907. The following clipping, which we take from *The American Journal of Surgery,* June, 1907, is deserving of the attention of surgeons, who in a time of emergency may be short-handed: Ebert reports the successful use of the Abbott hyoscin-morphin-cactin combination as a general anesthetic in an amputation of the thigh in the upper one-third. The tablets used contained hyoscin, gr. 1-100; morphin, gr. 1-4, and cactin, gr. 1-67. Injections were given two hours, one hour, and half an hour before operation. Anesthesia was ideal and complete throughout operation and for several hours afterward. No ill effects whatever were noticed at any time. Muscular relaxation was not so complete as in ether or chloroform anesthesia so that after the operation no subsequent contraction of flaps took place and there was no more tension on the stitches afterward than at the time they were put in. Ebert thinks this may prove to be the ideal anesthetic for field use and emergency work where one may be short handed, as it does away entirely with the anesthetist and the space and care necessary in the transportation of ether or chloroform. The absence of inconvenient after-effects is a most valuable feature of this preparation in field work. Of equal utility in active service is the possibility of securing complete rest and anesthesia in cases of injuries too extensive to permit of immediate operative attentions, such as in visceral injuries of the abdomen, chest or head.

Enforcement of Vaccination Among the Employes of Business Houses in Chicago.—In Chicago, the large down-town business houses are requiring vaccination certificates from their employes, as a condition of employment; the smaller places are less careful in this respect. Two moderately large business houses in the down-town district came near to the closing point, May 18th, 1907, because of smallpox among their clerks. The Chief Medical Inspector of the Chicago Health Department remarks on this subject: "It is not good business sense for a firm to take the risk of having their business place closed on account of smallpox, when it can be avoided by requiring that all their employes furnish a certificate of vaccination. As already said, certificates of vaccination are required as a condition of employment in all the larger places in the city, and it would be wise for the smaller houses to follow their example.

If it becomes necessary to close a few places of business on account of the presence of smallpox, no one can be blamed but the responsible head of the firm, who has failed to require the vaccination of his employes." This paragraph should be read by all the employers of labor in Toronto, who should demand vaccination certificates from their employes.

The Opsonins of New Sera, According to MM. Levaditi and Inmann.—MM. Levaditi and Inmann sustain, in a thesis, the opinion that the opsonins of normal sera (Wright and Douglas) are identical with complements, the discovery being confirmed by researches on the aqueous humor, the liquids of experimental edema and leucocytic extracts. From their researches it results that the complemental power and opsonic force of the liquids they employed varied in a parallel fashion. The aqueous humor of a rabbit deprived of bacteriolytic complement exhibited equal inactivity, from the opsonic point of view, and it was the same in transudation liquids. Opsonin is, therefore, identical with complement. As complement does not circulate in blood plasma, in a free state, being enclosed in blood cells, it is evident that its opsonizing properties cannot play an active part in the defensive process of natural immunity.

Considerations on the Frequency of Appendicular Lesions.—In discussing unusual terminations of appendicitis at the Paris Academy of Medicine (May 7th, 1907), Dr. Richelot stated that appendicitis assumes various forms: attacks of hyperchlorhydria, abdominal pains, volvulus, etc.; it may also be the exciting cause of attacks of the most varied nature. Suppurations underlying the iliac fossa, v.g., psoitis. This probably accounts for the apparent rarity of appendicitis formerly. Everything relating to acute appendicitis is nowadays well known; the question of chronic appendicitis is a much more difficult one to resolve. Dr. Richelot thinks that the relations between the diseases of the colon and appendicitis seem to be, as yet, insufficiently understood. The coincidence of appendicitis and muco-membranous entero-colitis has been proved to exist in numerous instances. Drs. Potain and Dieulafoy have denied it, because they have looked for acute or subacute appendicitis, with the assemblage of symptoms peculiar to each of these diseases. However, chronic appendicitis, which is hidden,

is so truly the cause of rebellious intestinal disorders, comprising, among others, muco-membranous colopothy, that these disorders are often cured radically by the removal of an appendix in which the lesions discovered appear to be of a doubtful character.

Insanity a Disease and Insanity an Infirmity.—At a meeting of the Societé de Biologie, Paris, May 4th, 1907, Dr. L. Marchand drew a distinction between insanity considered as a disease and insanity considered as an infirmity. In acute cases of mental alienation there are diffuse brain lesions, involving the brain cells on the meninges and the brain cells. Such cases when properly treated at the commencement of an attack often recover. In a certain number of cases the brain lesions pass into a chronic stage; they may even cease to progress; but all the same, the brain is spoiled. Patients affected with lesions of this kind become weak in the brain rather than positively insane. Finally, there are insane patients who have no lesion of the brain, but who have always been abnormal, whose brains have developed in a vicious manner, who were born with weak brains. J. J. C.

OBITUARY.

The many friends in this city of Mr. Thomas Macfarlane, F.R.S.C., Chief Analyst of the Inland Revenue Department, Ottawa, will be grieved to hear of his sudden death in Ottawa a few weeks ago. Mr. Macfarlane had been at Rockliffe, and had run a short distance to catch a train, when he stopped and suddenly expired.

The deceased, who was seventy-three years of age, had been with the Department for twenty-one years, and had only recently been granted six months' leave of absence, with the understanding that superannuation would follow. He leaves a widow and six daughters, one of the latter being Mrs. J. M. R. Fairbairn, 115 Bernard Avenue.

News of the Month.

THE ONTARIO SOCIETY FOR THE REFORMATION OF INEBRIATES.

The Board of Managers of the Ontario Society for the Reformation of Inebriates begs to announce that the Society is now prepared to undertake the care and treatment of inebriates, more particularly of the indigent class. Arrangements have been made for giving home treatment in suitable cases, and with one of the hospitals of Toronto to receive, for a period of from one to three weeks, such cases as require hospital care. A medical officer administers treatment, and there is a Medical Consulting Committee, the functions of which are of an executive character; a Probation Officer takes the supervision of inebriates subsequent to treatment. Dr. A. M. Rosebrugh is the medical officer; Drs. Wm. Oldright, E. J. Barrick and W. Harley Smith constitute the Consulting Committee; while W. J. K. Bellamy, Esq., is the Probation Officer.

Arrangements have also been made with the Toronto police authorities whereby persons arrested for drunkenness (when not hardened offenders) may be committed to the care of the probation officer instead of being sent to gaol and forced to associate with the vicious and the degraded.

The treatment extends over a period of three weeks; in many cases it may be conducted at the home of the inebriate, while in others, hospital treatment may be required, but not usually for more than one week. No secret remedies are used and the treatment is conducted on strictly ethical lines. It has the endorsation of the medical profession, and the scheme has been recommended by the Medical Associations of Canada as the basis for legislative action.

The probation officer gives a helping hand subsequent to treatment, and acts in the capacity of a friendly Christian visitor and adviser, assisting in obtaining employment, etc.; he endeavors to place the inebriate on a higher plane of life and living, and also, if possible, in touch with the church of his choice.

For the purpose of husbanding the limited resources of the Society, and also with a view to the encouragement of self-respect and ambition on the part of the inebriate, the cost of treatment, when not met at once, is to be understood as a loan to be repaid as

soon as convenient after treatment. The cost of home treatment does not exceed $12.00 in all, while hospital treatment is from $4.00 to $6.00 a week extra.

At the quarterly meeting of the Board of Managers held on June 20th last, the report of the officers of the Society was of a most gratifying character. The hospital accommodation at present is somewhat restricted, but larger accommodation will be available in a few weeks. The facilities for the prosecution of the work at the Police Court is all that could be desired. By the kind permission of the police authorities the probation officer visits the cells and interviews the prisoners in the morning before the opening of the court. Upon his recommendation persons charged with drunkenness whom he considers really desirous of reformation are remanded so that they may come under the care of the Society instead of being committed to gaol. The report of the result of treatment was also quite satisfactory; 75 per cent. of the cases were much improved and 60 per cent. were doing remarkably well.

In view of the satisfactory character of the report it was decided that the Board would be more than justified in making an appeal to the benevolent public for financial help to carry on the work efficiently.

It is not taken for granted from the report of the results of treatment thus far that 60 per cent. or 75 per cent. will be reformed. That percentage of cases will receive a temporary uplift, but if 30 per cent. or only 15 per cent. remain permanently reformed the Society will not consider the effort in vain.

A bill to promote the reformation of inebriates, based upon the probation system, combined with medical treatment, has been prepared for the Ontario Government, and the Society is very desirous of being able to demonstrate, as an object lesson, before the next session of the Legislature, that much good may be accomplished and at comparatively small cost by the unique economic system referred to. This is an additional reason for making an appeal for funds at the present time.

Subscriptions may be sent to the Hon. S. C. Biggs, M.A., the Treasurer, Rooms 95-96 Confederation Life Building; or to Dr. A. M. Rosebrugh, Secretary, 76 Prince Arthur Avenue, Toronto.

DR. R. A. FALCONER, THE NEW PRESIDENT OF THE UNIVERSITY OF TORONTO.

The Board of Governors of the University of Toronto met with Dr. R. A. Falconer on June 14th and received from him his formal acceptance of the appointment to the office of President of the University. On invitation of Dr. John Hoskin, K.C., chairman

or the Board, the Governors were entertained at luncheon with Hon. Mr. Whitney, Hon. Col. Matheson, Mr. A. H. Colquhoun, Deputy Minister of Education, and the deans of the various faculties in the University. In the afternoon a formal meeting of the Board was held, when Principal Hutton, who has been acting-President during the past year, formally resigned and the new President was introduced. On taking his leave Dr. Hutton spoke gratefully of the consideration and support he had received from the Board, and gave the strongest assurance on his own behalf and on behalf of the faculties of the University that his successor in office, Dr. Falconer, would be welcomed with the utmost cordiality. The chairman of the Board expressed to Dr. Hutton the very sincere gratitude felt towards him by all the members of the Board for his valuable services during the critical time since the resignation of Dr. Loudon, and a committee, consisting of Sir Wm. Meredith, Dr. Hoskin, Dr. Goldwin Smith and Dr. B. E. Walker, was appointed to prepare a suitable expression of the sentiments of the Governors towards Dr. Hutton.

Dr. Falconer, on being introduced and on having the position of President formally offered to him, accepted the appointment with expressions of gratitude for the kindly way in which he had been received by the members of the Board of the Governors and the Provincial Government, and also by the members of the various faculties of the University with whom he had been in conference during the forenoon. He proposed no new plans, but expressed himself as prepared to study the whole situation, not only in the University, but throughout the Province, and to devote to the duties of his office all the strength and ability at his command. At the close of the meeting expressions of great satisfaction were made by the members of the Board of Governors, who now look forward to a new era of prosperity for the University.

NEW PROFESSOR OF ANATOMY FOR THE UNIVERSITY OF TORONTO.

The Chair of Anatomy in the Department of Medicine, which was made vacant by the resignation of Dr. Primrose, was filled by the appointment of Prof. J. P. McMurrich, Professor of Anatomy in the University of Michigan. Dr. McMurrich is a son of the late Hon. John McMurrich and a brother of Mr. W. B. McMurrich, K.C., of this city. He is a graduate of the University of Toronto, and ever since graduation has been on the staff of the University at Ann Arbor. He has won great distinction, especially in the Department of Anatomy, and his coming to Toronto will add greatly to the strength of the medical faculty.

A committee of the Governors was appointed to co-operate with other committees in arranging for the ceremonies in connec-

tion with the installation and the opening of the new Physics Building. It is expected that the new building will be completed in time for the formal opening during the last week of September. If so, Dr. Falconer will be installed during the same week.

ITEMS OF INTEREST.

Meeting of Canadian Medical Association at Montreal, Sept. 11, 12, and 13, 1907.—The Committee on papers and business desire intimation of papers or other matters to be presented at the forthcoming meeting. Papers will be limited to fifteen minutes and are to be submitted to the committee three weeks before the meeting. Ridley Mackenzie, Local Secretary, 192 Peel Street. Montreal.

Dr. Walter M. English, of London, Appointed Successor of Dr. James Russell.—Dr. Walter Murray English, of London, Ont., has been appointed to succeed Dr. James Russell as superintendent of the Hamilton Asylum for the Insane. Dr. Russell resigned January 19th last, but remained on at the request of the department. The salary attached is $2,600, with free house, fuel, and light. Dr. English is a lecturer at the Western Medical School, and was at one time a member of the London City Council.

Fatal Vaccination on Board a Vessel.—Vaccination on shipboard, which developed tetanus, or lock-jaw, is given as the cause of the death of George Harold Meads, aged seven, son of Geo. Meads, who is staying at 219 Lisgar Street. The death was registered at the office of the City Clerk on June 11th. Little George died two days before, after an illness of only thirty-six hours. Dr. J. W. Smuck was called in shortly before death, but the disease had gone too far. The parents, with the boy, came out from Nottingham, England, recently, and the son was vaccinated in accordance with the ship's rules. Such results from vaccination are very infrequent.

Oxford Medicos Dine.—The first annual banquet of the Oxford Medical Association was held on May 17th, and was attended by representative men from all parts of the county. This association was but recently organized, and the success that has attended its career thus far has been of a reassuring character to its promoters. Dr. McPhedran, of Toronto, was the guest of the evening, and at the business meeting prior to the banquet he read a paper dealing with questions of importance to the profes-

sion. The banquet, which was held in the Hotel Oxford, was an elaborate function.

Canadian Medical Exchange.—Physicians desiring to sell their practices can always find a central depot for consummating same at the Canadian Medical Exchange, conducted for the past twelve years by the well-known medical broker, Dr. W. E. Hamill. A very large percentage of all the medical deals in Canada are conducted through his hands, and it is a short cut either for buyer or seller to be placed in touch with the medical opportunities and medical openings and medical buyers in Canada. We advise those of our readers who are in need of such services to drop a post-card to Dr. Hamill for further particulars.

Dr. Arthur Small, Late of Toronto, Appointed Medical Expert for Chicago.—Word was received in the city recently from Chicago that Dr. Arthur A. Small, brother of Mr. Sidney Small, has been appointed one of the four medical legal experts of that city. There were several hundred applicants for these positions, and for Dr. Small to be one of the four successful applicants is no small credit to him. Dr. Small is a graduate of Toronto University, and is a member of the Royal College of Surgeons, London, England. He has been in Chicago a little over three years. Besides practising his profession, he is a lecturer in Rush Medical College. At the age of 34 he has made much progress in life, and adds no little honor to Canada, his birthplace.

Nurses' Club House Will Cost $15,000.—At a largely attended meeting of the Toronto Graduate Nurses' Club a few weeks ago in the theatre of the Normal School the plans for the new club house to be erected at a cost of $15,000 were discussed, as well as ways and means for raising the money. The intention is to erect a club house sufficiently large to accommodate all branches of nurse work, such as the nurses' registry, nurses' social club and other organizations, and also to provide an auditorium with a seating capacity of 200, which can be utilized for many women's societies for social or educational improvement. The upper stories will be used as apartments for resident nurses, or for transient members of the profession in the city, and in connection will be a dining-room in charge of a competent house-keeper. It was proposed to raise funds for this undertaking by means of socials, concerts, bazars and similar entertainments in the near future.

The Physician's Library.

BOOK REVIEWS.

International Clinics. A Quarterly of Illustrated Clinical Lectures, and especially prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by W. T. Longcope, M.D., Philadelphia, U.S.A. Vol. I., Seventeenth Series. 1907. Philadelphia and London: J. B. Lippincott Company. 1907.

One may derive much satisfaction from the perusal of these lectures. There are articles on Medicine, Surgery and the Specialties, and the reader may be sure of finding some favorite topic treated by an author who has the knack of presenting it in an instructive and entertaining manner. The quarterly is indexed.

J. J. C.

Green's Encyclopedia and Dictionary of Medicine and Surgery. Vol. IV. Gum-Resins to Intussusception. Edinburgh and London: William Green & Sons.

Volume four contains 872 subject headings. The most lengthy article is that dealing with "The Heart and Its Diseases," occupying 98 pages. This is, perhaps, one of the most thorough dissertations on the most vital organ in the human make-up that we have read outside of the ordinary text-book devoted entirely to this subject. This section is divided into several subsections. That devoted to Comparative Anatomy and Physiology is written by Dr. Alex. Morrison; Affections of the Myocardium and Endocardium, by Drs. T. N. Kelynack and Graham Steele; Heart Block, by Dr. J. S. Fowler; Congenital Malformations, by Dr. John Thomson; Neuroses, by Dr. Alex. Morrison, and Surgery, by Dr. Stephen Paget. The Various Aspects of Insanity covers nearly 80 pages, being also worthy of careful study. This section is contributed by Drs. A. R. Urquhart, W. Ford Robertson, G. R. Wilson, and C. A. Mercier. Volume 4 is one of the best of the series so far issued.

Atlas of Applied (Typographical) Human Anatomy, for Students and Practitioners. By Dr. Karl von Bardeleben and Prof. Dr. Heinr. Haeckel, in collaboration with Dr. Fritz Frohse and Prof. Dr. Theodore Ziehen. Only authorized English adaptation from the third German edition, containing 204 wood-cuts in several colors, and descriptive text by J. Howell Evans, M.A., M.B., M.Ch. Oxon., F.R.C.S. England, late Senior Demonstrator of Human Anatomy at St. George's Hospital, London; Demonstrator of Operative Surgery, St. George's Hospital, London; Assistant Surgeon to the Cancer Hospital, London. London: Rebman, Limited, 129 Shaftesbury Avenue. New York: Rebman Company, 1123 Broadway. 1906.

We have not examined any book recently which appeals to us as being more valuable as a supplement to dissection as J. H. Evan's Atlas of Applied Anatomy. The plates are certainly beautiful, though, perhaps, in one or two instances a trifle highly colored to be perfectly true to life. Perhaps the best criticism we might offer is that any practitioner who wishes to brush up his knowledge of human anatomy without taking another course in dissection, cannot do better than buy this book, as he will find it universally valuable, especially if engaged in surgical practice.

Sir Nigel. By A. Conan Doyle, author of "The White Company," "Adventures of Sherlock Holmes," etc. With illustrations. Toronto: William Briggs. 1906.

When reading "Sir Nigel" one feels that the gifted author has absorbed a long draught of the spirit of the Middle Ages—the rudeness, the energy, the sense of honor—and these he paints well; the religious spirit of these ages of faith not so well. The Middle Ages were redolent of intense belief in the religion of Christ, of unfeigned reverence for the ministers of religion. In "Sir Nigel" the priests are worldly, scheming courtiers, heartless officials or sordid knaves. Again, the Middle Ages resounded with homely laughter—reeking fun—something we do not find in "Sir Nigel," unless it be the ponderous gambolling of Samkin Aylward and his fellow archers.

The tale of the Battle of Poictiers is told in spirited fashion. It makes one's blood tingle to read of an English prince and a French king facing the rough chances of war on "a stricken field"—a grander position, surely than that which falls to the lot of a king in our day, dodging the bullets of Socialists or the bombs of terrorists. J. J. C.

NIAGARA-ON-THE-LAKE FROM A HEALTH STANDPOINT.

Perhaps the most prevalent ailment of the town dweller is brain fag, and the most frequent prescription given by physicians at this time of the year is change of scene and recreation in its truest sense. A hotel, not a sanitarium, is so often preferred by nervous people, yet it is necessary that pure food, good milk and farm products, clean rooms filled with cool air, and plenty of amusement should be supplied. A rest for the body, good nourishment for the inner man and diversion from household or business cares. A place where, also, a convalescent patient may be sent, leaving home so ethereal that his inmost thoughts can be read, and returning opaque and cheerful. Such a place is old Niagara, the scene of battle, now a peaceful camp for the soldier boy, and the trysting place of old Lake Ontario's breezes, and such a hotel is the old yet ever new Queen's Royal, proved by its household name among the families of Toronto, Buffalo, and New Orleans, many of whom are still going "where grandma always went to spend her summers."

So it goes almost without the saying that Niagara-on-the-Lake has for many years now been noted as a health resort, being situated at the mouth of the famous Niagara River, less than two hours' sail by steamer from our city. This resort is an exceedingly healthful and at the same time restful place, and any patient referred there can be guaranteed not only quiet by night but by day also. The management are very anxious to bring their hotel under the immediate notice of the medical profession all over Canada, as they feel that physicians are in a position to benefit their patients and themselves and be able almost to guarantee their complete recovery. The rooms of the Queen's Royal are bright and airy. The cuisine has earned for itself quite a notable reputation, all that can be procured from both the Canadian and American markets being served on the table, as the season permits.

In order to convince medical practitioners that the management are anxious to receive their endorsement, they have recently built for those desiring more quietude than is usually obtainable in hotel life, several beautiful little cottages in the grounds of the hotel, each fitted with a bathroom, hot and cold water, and electric light. These cottages can be rented at very reasonable figures, and arrangements made for meals at the hotel at special rates. Physicians may rest assured that any patients referred to the Queen's Royal will be much in the gardens during their stay, as the management have paid particular attention to providing out-door recreation of almost every kind. The tennis courts are too well known to require more than a passing mention,

they having been used for some years for both the Canadian and International Championships. Golf links have also recently been made, so that lovers of this silent, serious game will find ready for them the pasture field of meditation, a nine hole course adjoining the property of the hotel. The bowling green in connection with the hotel is also well known over the Dominion, having been the scene of many famous matches, not only between Canadian clubs, but those also from across the Atlantic. The Queen's Royal has been for years the favorite rendezvous of the Royal Canadian Yacht Club of Toronto, and any Saturday during the season it is a beautiful sight to see at anchor the different yachts whose owners come over to spend the Sunday at the Queen's Royal, returning in time for business on Monday morning. Special provision has been made by the hotel management for the storing of automobiles.

The Queen's Royal is within a few miles of access by rail, boat or trolley car to Niagara Falls, that nature wonder, situated in the garden of Canada with its wealth of vineyards, orchards and maple clad hills, on the most historic ground in America, where Britisher and Frenchman met again and again in that half-century of conflict "When the world was a battlefield and the prize a continent." Guests of the Queen's Royal can leave every half-hour by trolley and reach Niagara Falls within sixty minutes, viewing all the way what is undoubtedly the most wonderful scenery in the world. The trolley cars run for the entire distance along the Niagara River and the edge of the cliff, so that the traveller is able to view the whirlpool and eddies of that famous body of water. Reaching Niagara Falls, carriages can be procured, so that the guest can drive across Suspension Bridge and visit the American side, or, if so desired, go to the different power houses recently built for the distribution of electric energy all over the province.

The management of the hotel arrange impromptu dances, amateur theatricals, etc., one or two evenings each week during the season, so that the evenings can be spent just as enjoyably as the daytime. The annual military camp takes place for two weeks within walking distance of the hotel, when the scene is enlivened by the presence under canvas in the immediate vicinity of several thousand of our regular militia.

It will, therefore, be seen that medical men cannot make any mistake in referring patients to this beautiful resort on Lake Ontario during the months of June, July and August, as the seeker of rest and quietude cannot but be satisfied with Niagara-on-the-Lake, and return ready and anxious to take up work again. For those anxious just to rest, the view from the verandahs surrounding the hotel is beautiful, the lake oftentimes white-capped, stretching off on one side suggesting a sea picture, then narrowing into the Niagara River, with its beautiful shadow coloring, and banks of fresh green foliage and wild flower—a country-side of restfulness and for day dreams.

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THE FUTURE OF MEDICAL JOURNALISM.

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Editor of the *Military Surgeon*, the Journal of the Association of Military Surgeons of the United States.

THE fourth estate in the profession of medicine is of importance equal, if not superior, to any of the other elements whose combination welds it into the most important factor in modern life. On the one hand, original research is at the basis of all knowledge, but of what value is original research if its results be not made known to the public? On the other hand, the intelligent practice of the art of healing is the chief object of the medical man, but how can he practice intelligently if the methods of doing so are not placed at his disposal? In the centre between these extremes lies the medical press, in touch, not only with these main professional factors, but with every other element, small or large, which contributes to professional success—in touch with all, strengthening all, supporting all, binding all into one mighty progressive whole, and lending to all the qualities indispensable to success.

In our own country this department of professional endeavor has attained especial development. Few realize how many physicians are engaged in medical journalism. I admit that while my own estimate of the number was high, it was not until I entered upon the duties of the important office, with which this Association honored me at its last meeting, that I began to gain a definite knowledge of it. And it was entirely without a full appreciation of the magnitude of the task I was assuming that I entered last year upon the work of constructing a catalogue of all the medical

editors in the United States and Canada, including in my plan all participants in medical editorship, whether editors-in-chief, assistants editors, associate editors or department editors. In order to render later indexing easy I entered each person with his journal upon a separate slip of paper, and it was wonderful how these slips multiplied, pile on pile, until finally no less than 1,150 exponents of the medical phase of the art preservative were represented, and doubtless there were still some whose names had escaped my search.

It was then among a considerable population that the American Medical Editors' Association found the field for the recruitment of its membership. There was no doubt but that every one of the eleven hundred and fifty eligibles should be gathered into the Association, and, acting upon this theory, I wrote a personal letter to each one of them, and to some of them several, inviting attention to the Association, and suggesting co-operation in its objects. The correspondence involved in this campaign then was rather considerable, the formation of the catalogue itself requiring the despatching of some three hundred, and the further campaign for members among the eligibles, whose names had been listed, made necessary the preparation of over twelve hundred letters, the whole mounting up to a total of more than one thousand five hundred letters involved in one phase of the work of the president's office this year, in addition to the correspondence demanded by other features of the work.

Of some of the results of this work you have already learned from the report of the Executive Committee; other results in the way of increasing the efficiency, extending the authority, and widening the influence of the organization, will, it is hoped, manifest themselves with the progress of time.

Much depends upon united effort. The days of sociological individualism have in all phases of human life been supplanted by aggregation. The progress from the human unit—with every man's hand against him, and his own hand against the world—to the family, the tribe, the nation and the imperial aggregation of states, is the history of the growth of humanity from savagery to civilization. Collective action, so long recognized in the realm of higher politics, has pushed into the region of economics. The wastefulness of scattered and individual labor has become so apparent as to make consolidation the watchword of the day, even in some instances to a dangerous degree.

Collective professional study has long been an ideal of the advanced exponents of medicine, but never hitherto has it attained the importance which it has reached to-day. Association for professional advancement has irradiated into every department of the healing science, and who can deny its imperative necessity?

How can the sanitarian, the gynecologist, the ophthalmologist, the general surgeon, or the military surgeon obtain the professional facility essential to scientific success without the hints, suggestions, and information to be obtained from the practice of his fellows? So essential is this that the specialist who fails to avail himself of such opportunities had better lay aside his special pretensions at once—discard his speculum, lay down his scalpel, resign his commission—for he writes himself down clearly as one who fails to read the fundamental signs which spell success. The absurd position of the aspirant to recognition as a specialist who abstains from joining with his fellow-specialists in the collective development of the branch of the art, to special proficiency in which he pretends, because, forsooth, he "already belongs to so many societies that he cannot do justice to them," is a spectacle for gods and men! And yet a spectacle which not infrequently obtrudes itself upon the attention of the profession.

More specialized than any other medical specialty, the field of medical journalism has for nearly two score years been held together with varying degrees of firmness by the American Medical Editors' Association. Much of the time inadequate to its opportunities, it has, nevertheless, during the passage of years, been a fair reflection of prevalent sentiment as to the desirability of combined conduct. And with the crystalization of opinion, and the materialization of the necessity for organized action in other directions, it has stood well abreast of the other participants in the great procession of progress. Participation in the work of the organization is to-day more necessary than ever to him who proposes to practice the specialty of medical editorship.

During the past year the Association has fixed its feet more firmly than ever before upon the rock of endurance, and in the highway of usefulness. The adoption of a well-considered system of government in its new constitution and by-laws has contributed to it a permanent and definite foundation. The increase of its annual dues to a fairly reasonable figure has provided an assurance of sincerity to its aspect, and a promise of productivity to its soil. The publication of the handsome booklet in which the proceedings and papers of the last meeting are perpetuated, gives it a definite position, a personal literature and a manifest reason for existence.

Under the guidance and inspiration of an Association such as this the future of medical journalism insures a brilliant career for the medical journalist of the future.

The field of medical journalism is broad—wide as the lapse of the ages during which man shall be born, live out his brief day and pass into eternity. The possibilities of medical journalism are only limited by the boundaries of human endeavor. It may not be said of the medical press that—

> "There is a tide in the affairs of men
> Which, taken at the flood, leads on to fortune;
> Omitted, all the voyage of their life
> Is bound in shallows and in miseries."

but rather that there is an ever-present opportunity who loudly advertises that—

> "They do me wrong who say I come no more
> When once I knock and fail to find you in,
> For every day I stand outside your door
> And bid you wake and rise and fight and win."

The prospects of medicine are brilliant. This wonderful century, with its tremendous forward strides, is but the borderland of the boundless field of medical endeavor—but the title page of the mighty book of medical knowledge, whose pages posterity will turn one by one, and whose teachings will not only illumine the dark spots in the medical work of the day, but furnish material in vast amounts for the greater periodicals, and even for the most highly technical publications. The professional teacher, the original investigator, the aspiring specialist, the earnest practitioner will as before abound in thoughts appropriate for expression in current journalism.

It has been said that man is a talking animal, and if that be true the physician is a reading animal. And this is essential. For his education is never complete. Before half a score years have followed the period of his pupilage in lecture-room, clinic and laboratory, the face of his science is so transformed by the protean mutations of medicine that, without constant following of the progress of science, he would be impotent either to cope with his fellow-practitioners or to meet the demands of his clientele. The medical journal is the text-book of the practitioner, and this fact is the key to the most important function of the medical journalism of the future. To meet it, medical periodical literature must cast aside the opportunism which has so largely characterized it in the past, and become more of a creator of literature that shall be well-balanced and comprehensive.

The great general medical journals already in the field will continue to grow apace with their enormous editions and their broad fields, and judicious and intelligent management will hold them secure in the point of vantage which their precedence in establishment has insured for them.

But along with these, a continual outcrop of new general journals—weeklies, bi-weeklies, monthlies and semi-monthlies—will appear, a fortunate circumstance, for anything like monopoly of the journalistic field would savor too much of suppression to be for the good of the profession. A free course and a fair field

for the journalistic aspirant whom new ideas or exceptional ability may have inspired to enter the contest for the favor of his compeers, will continue to be assured by a generous, just and high-minded profession.

With the widening of the field of medical knowledge the demand for restricted special medical journalism will increase in the future as it has during the past. The further subdivision of specialties, foreshadowed by all the auguries of the age, will necessitate additional exponents for each new phase of medical science, culminating in an extension of special journalistic work as noteworthy as it will be encouraging. Each new discovery will have its special spokesman, and, as the number of practitioners grows, they will increase in number as well as in circulation.

It is hardly to be supposed too that new medical sects will fail to arise hereafter as hitherto and with each of these a new crop of medical journals will spring up.

There will continue to be a field also for the weaker grade of journals whose function is to provide an outlet for the energy of the ambitious young man both in the editorial and the authorial capacity. Man will continue to write *for* practice as well as *from* practice. Nor can we expect that this class of publications will improve to any great extent in character, although they may well have a fuller table of contents.

The greater the number of journals, then, with their voracious call for pabulum to nourish the mental appetites of their readers the greater will be the productivity of the profession. The quantity of medical literature published is enormous, but the amount which never escapes from the trammels of the author's manuscript is, perhaps, still greater—certainly equally great. At a meeting of a medical society with membership in two states, of which I am a member, and which holds regular annual meetings, there were presented last year ten set papers and fifteen clinical reports, not one of which has been offered for publication in a medical journal. In the medical society of my county, which meets quarterly, about a dozen papers are presented each year, and some of them followed with active and interesting discussions, and I recall but one of the papers which has emerged into the light of publicity through medical journalism. I can hardly conceive of a very different situation prevailing in other parts of the country. So that it is evident that there is an abundance of material available for publication, much of it not in suitable shape for the printer, it is true, but all of it, nevertheless, available for the pruning, shaping and revising hand of the editor. But little of this material is without value. Occasionally it is true a paper is but a rehash of or possibly a wholesale steal from a text-book or a journal, but more frequently they represent the opinions and

practice of the average physician, whose work does not get beyond the audience of his society or neighborhood. This is often due to modesty upon the part of the author; frequently it arises from a lack of knowledge of the mechanics of literary construction, and in many instances it is because of the busy life with its absorbing cares which prevents the final preparation for publication. It is evident then that the journalism of the future, judging by the criterion of the present, need not lack for material upon which to feed its public.

I differ quite fundamentally from many of my colleagues upon the question of restricting the work of many more or less inefficient contributors to medical periodical literature. I favor the writer who makes one case the text upon which to found a discussion of the literature of an affection. The study which he has devoted to the preparation of his paper cannot but be of advantage to him, and if, perchance, the publicity which it gives to its author should bring to him other cases in consultation and otherwise, the resulting intelligent experience will enable him to produce still more, and possibly more original material upon his subject.

On the other hand, the readers of the paper cannot fail to derive some benefit from the effort—whether it be from the consideration alone of the case upon which it is founded, or from the review of the literature with which it is accompanied. Few men are so erudite that they cannot be benefited by a refreshment of memory. Man is so frail that it is a never-ending "line upon line, and precept upon precept," by which the mental machinery must be kept constantly rubbed-up and polished, or the rust of forgetfulness and intellectual lethargy will clog his practice and obscure his judgment. The personal touch of acquaintance with the author, perhaps even the habit of referring to familiar pages, may incite the perusal of a paper—whatever be the cause, the act cannot but reflect beneficially upon the reader even though it accomplish nothing but the extraction of forgotten facts, theories or methods from his own subconsciousness.

But the medical journalism of the future will be characterized particularly by certain outgrowths of the present situation, each a development of existent conditions, an elaboration of contemporary circumstances. The evolution will occur along lines resulting in the production of two ideals of medical journalism—the recorders and the creators—both of the greatest necessity and both of the highest value.

To the former class will pertain the majority of the Association and Society journals, which have already attained so high a degree of efficiency, and whose important function will chiefly be to record the work of the members of the organizations for

which they are mouthpieces, and thereby to inspire them to renewed and combined activity along the lines of their profession. No man can foresee the tremendous consequences that may arise from the influence of this factor in medical journalism in unifying the profession, stimulating thought, and extending the influence and authority of the medical man in the community.

The other chief factor in the medical journalism of the future may be the product either of a private publisher or a public endowment—in any case it must have no obligation to publish any material that may be submitted to it by agreement with medical societies or individuals. Its editor will be autocratic in his action upon all matter published in its pages. It will contain few voluntary contributions, for its space will be largely taken up by well-proportioned studies, undertaken at the suggestion of the management by experts selected for the purpose. Its editor will have at his disposal funds for commanding original research by members of his staff. He will have assistants in every department of medicine, whose duty it will be to keep a careful lookout for new theories, original discoveries and promising advances in the art of healing and the allied sciences. He will be able to attach to his journal writers of facile expression, authors of attractive diction, students of untrammeled originality, and observers of unvarying accuracy. He will furnish to his readers the complete facts concerning every advance in medicine, and avoid the loose threads and unconcluded topics, which are so common in the general press. His journal will never be an organ for the exploitation of any special line of thought, any medical fad, feature, or sect, but it will be catholic in its views, comprehensive and conclusive in its text, well-balanced and well-proportioned in its contents, a leader and guide to the practitioner, an inspiration and stimulant to the student, and an instrument of real value to the world.

Is this an ideal? It may be so, but it is an ideal that may readily be transmuted into a reality, a reality which the future medical journalist will beyond peradventure behold.

The medical journalism of the future then, with these two great divisions and the numerous intermediate phases in which it will appear, will not fail to be an advance upon that of to-day, an advance along all lines, an advance significant, not only of a progressive profession, but an advance inspired by a fuller appreciation of the duties, responsibilities and opportunities of the medical editor. In this the American Medical Editors' Association will be a governing and guiding factor. Its face will always be set toward higher and better things, and its attitude will be characterized by the glorious persistence which marked the conduct of the famous Genoese mariner, when—

Behind him lay the gray Azores,
Behind the gates of Hercules ;
Before him not the ghost of shores,
Before him only shoreless seas.
The good mate said : "Now must we pray,
For lo ! the very stars are gone.
Brave Admiral, speak—what shall I say ?"
"Why, say, 'Sail on, sail on, and on.'"

"My men grow mutinous day by day ;
My men grow ghastly wan and weak."
The stout mate thought of home ; a spray
Of salt wave washed his swarthy cheek.
"What shall I say, brave Admiral, say,
If naught we sight but seas at dawn ?"
"Why you shall say at break of day,
'Sail on, sail on, sail on and on.'"

And so shall we, too, in the high vocation of cultivating and perpetuating the knowledge which shall diminish suffering, alleviate pain and lengthen life, press on and on and on. The future of medical journalism will continue to brighten and its activities never cease to expand throughout the ages, during all of which it shall ever crown the mighty archway of medical practice as the great keystone of knowledge, which shall time without end unite theory with application and learning with practice, in the ever-glorious aims of deferring disease, delaying death and maintaining health.

HIGHER STANDARD FOR MATRICULATION IN MEDICINE. IS A DEGREE IN ARTS TOO HIGH?

BY JOHN HUNTER, M.B., TORONTO.

At a recent meeting in Broadway Hall for West Toronto Medical Territorial District, the following motion was submitted:

"That in the opinion of this meeting it would be to the interests of the public, to those now engaged in the practice of medicine, and to all who may in the future enter upon the study of medicine, to have the standard for matriculation a degree in Arts."

There were technical objections raised—as to the purport for which the meeting was called—and this question, with others, was left over for future consideration.

The problem involving the character and extent of the education and literary culture students receive before entering on their medical course is one of very great importance to the individual, to the profession, and to the public.

This subject could be discussed from many standpoints, but the following division of it best answers the purpose of the writer: (1) The past and present status of the matriculation examination; (2) the Arts course; (3) the advantages to be derived from the Arts course.

1. Past and Present Status.

The earliest standard established by the Council called for a fair knowledge of the usual English subjects taught in our schools and some Latin. Later it was raised to junior matriculation in Arts, and in 1902-3 a motion was carried by 16 to 11 to make it honor matriculation. Opposition—in which the representatives of the schools (Toronto and Trinity) figured ominously—was raised, and the standard again lowered to simply pass work in junior matriculation, as it is at present. The subjects for junior matriculation are as follows: Latin, English, history, mathematics, and any two of the following: Greek, German, French, experimental science. The pass standard (there are two sets of papers, pass and honor) is 33 per cent. for University matriculation, and it is claimed 50 per cent. for Medical Council. It is on the "pass" paper the marks are assigned. The first class honor standard (honor paper) is 75 per cent., the second class 66 per cent., and the third class 50 per cent. The present standard of matriculation in medicine is looked upon as being about on a par with the lowest class of teachers' certificates in so far at least as the English subjects are concerned. On the discussion in the Council (1902-3) several members said the standard was so low as to be a disgrace to the status of the profession. The excuse the school

representatives gave for reverting from the honor to pass work was that the Government thought the honor standard too high. Whether this excuse was or was not a valid one for the retrograde step then taken, is it not a disgrace to our profession, now that such widespread interest is being taken in educational matters, to tolerate a standard of matriculation lower than it was some years ago? Every member of the Council should be interviewed by his constituents at once, and if opposed to raising the standard he should be summarily dealt with at the next election.

2. The Arts Course.

The following quotation from the University Calendar, 1906-7, puts this section very tersely:

"The special attention of students entering medicine is directed to the recent enactment of the University Senate instituting a new curriculum in science leading to the degree of Bachelor of Arts. This course, entitled the honor department of Biological and Physical Sciences, is specially adapted for students who intend entering eventually upon medicine, and embraces the purely science subjects which are demanded of students in the primary years of medicine. It will therefore be possible in the future for a candidate who has obtained his Arts degree in this course to enter immediately the third year of medicine, and he will be qualified to present himself for the degree of Bachelor of Medicine two years after graduating in Arts. In other words, it is possible for one to obtain the degree of Bachelor of Arts and Bachelor of Medicine after six years' study at the University.

"The very great advantages of this course to a student entering medicine are obvious. The preliminary science subjects of the course in medicine are taught in much greater detail in the Arts course, as in the latter is included advanced laboratory and experimental work, such as is not required in the purely medical course of studies. Further, the student is required to become proficient in modern languages, an acquirement which is of great value to the student of modern scientific medicine. This new course not only affords opportunity for wider culture and greater scientific attainments than is possible in the more limited four years' course in Medicine, but it fits one for a much wider field of usefulness after graduation. The graduate who has taken the science course in Arts, and subsequently that of medicine, is qualified to devote his life to the purely scientific side of medicine if he should so elect, after leaving the University, and, moreover, he is undoubtedly better fitted to practice his profession should he desire to prepare himself for that alone.

"Students may also combine the course in Arts and Medicine to a less extent by proceeding to graduation in Arts through any

one of the honor departments of biology, chemistry, geology and mineralogy and physics, certain courses and examinations in these departments being accepted as equivalent to similar courses and examinations in the faculty of medicine. The student who takes the biological and physical science course, which includes an advanced course in human anatomy, including dissection, may graduate in Medicine in two years after graduation in Arts."

3. Advantages to be Derived from the Arts Course.

History and experience teach us that every forward movement is not only confronted by sincere differences of opinion, but also menaced by ignorance, indolence, apathy and prejudice. The only one of these baneful influences that affect medical men seriously is apathy. Why we have tolerated an educational standard so low, and for so long, is very discreditable to us. We cannot remove the reproach too soon. In regard to sincere differences of opinion, space will only permit a brief reference to two or three of these. We are assured by the opponents of this movement that the art and science of medicine have become such vast and complex subjects that they practically demand of their devotees their whole time, energy and mind. Such men are laboring under the same delusions that governed the ascetics of the early church, whose morbid piety shut them up from all contact with the world. The Saviour himself gave a death blow to all such delusions when he told the Jews that "Man was not made for the Sabbath, but the Sabbath for man." If an institution so beneficent as the Sabbath, and the observance of which, ordained by divine command, is made subservient to man's physical and social needs, why should a man's practice have despotic sway over every other relationship of life? These medical ascetics would isolate themselves and colleagues from their social environments and make of them, not good citizens, husbands, fathers or companions, but simply medical machines for eradicating disease, and nothing else. The life of medical and other ascetics is ridiculed thus by one of the poets:

> "Forenoon, and afternoon, and night: Forenoon,
> And afternoon, and night: Forenoon, and—What?
> The empty song repeats itself. No more?"

Is it necessary for a man to put such limitations on himself in order to be proficient and eminent in his calling? Moses was one of the greatest scientists of his own or any other age, judged by his sanitary regulations, and also the greatest of moral and political leaders; Gladstone, one of Britain's most erudite scholars, and most renowned of her statesmen; Dr. Weir Mitchell and the deeply lamented Dr. Drummond, as accomplished in medicine as in literature, illustrate this. Medical asceticism may be loudly preached,

but the mass of medical men refuse to isolate themselves or be isolated from their environments. To use a slang, but very apt, expression, "they are in the world for all that is in it," and deliberately assume the obligations of social life as well as those of their calling. Is it not just as great a disgrace to be a poor type of citizen as it is to be a poor type of doctor? Why be either of these?

This brings up for discussion the character, extent and utility of the physician's education and mental culture. There need be no discussion in regard to his scientific education. This should be the broadest and most efficient his means, time, ability and colleges can provide for him. In regard to education and mental culture, all will agree that there are no more potent factors in acquiring these than clearness and definiteness of memory, imagination and thinking. Even the most industrious student is badly handicapped if these be defective. What can surpass the study of languages for cultivating clearness and definiteness of memory? The omission of a letter, prefix or affix, changes the whole meaning of a sentence. No one can become even fairly proficient in a language, much less an accomplished linguist, who has a defective memory. For clearness and definiteness of imagination, what in scientific literature has stirred so many youthful minds as vividly as "Robinson Crusoe" or Bunyan's "Pilgrim's Progress"? and for clear and definite thinking what can equal the problems in mathematics? Let the mind wobble ever so little and what will the result be? It is claimed, and perhaps not unreasonably, that the medical course furnishes just as good a mental training as the Arts course, but does it furnish as good an equipment for social duties? Let us compare the value of the two kinds of education as to their usefulness for the needs of every-day life. For cultivating "tact" in business methods, David Harum's logic in horse trading, etc., have the teachings of Gray's "Anatomy" and Osler's "Practice"—in sporting parlance—"beaten to a standstill." For suggestions to the doctor who would be an exemplary husband, Sunday School teacher, and leader in class and prayer-meetings, the "Bonnie Briar Bush" is a gold mine compared with a work on physiology. For revealing morbid conditions in polities the "opposition press" can out-herod the most profound pathologist in the odors it finds, and for the needs of courtship, Shakespeare, Tennyson and Burns have given us love-elixirs far excelling in deliciousness the decoctions of pharmacology.

Another quibble exploited by those opposed to a B.A. standard is that there are good men in medicine who are not also graduates in Arts. But would not the training acquired in taking the latter course have broadened the culture of these men? One thing it would most assuredly have done, viz., made them conscious that

they were the peers of the vast hosts pouring out every year from our universities. The possessor of the two degrees presents the credentials of a broader culture than he who has only one. Another objection dragged into service by our opponents, viz., that the extra expense, will prove an insuperable barrier to many a poor boy. No law, even in nature, can be equally beneficent under all circumstances, *e.g.*, the bride prays for sunshine, the farmer for rain. The best that can be expected of any law is that it confers the greatest good on the greatest number. Some years ago it was pretty hard for the boy to make enough money for both courses, but in this rushing age of commercial and industrial energy, the task of earning the necessary funds is by no means insuperable, and, more than that, the experience he gets in earning this money will prove one of his most valuable assets in future life. Are not national prosperity, civil and religious liberties, blessings directly derived from the resistless energy and rugged experience of pioneer life in overcoming natural conditions, and breaking down the malevolent prejudices of class and creed? In like manner the sick are helped or injured, and medical literature elevated or debased, by the rigid or effeminate discipline the medical student passes through before admission to sick-bed or medical journal.

In conclusion, the present standard of matriculation is disgracefully low, and in the highest interests of the public, the profession, and the future students, the standard should be raised to that of a degree in Arts. Let students sing:

> "Yea, this is life: make this forenoon sublime.
> This afternoon a psalm, this night a prayer,
> And time is conquered, and thy crown is won."

ANESTHESIA IN LABOR.

BY FREDERICK FENTON, M.D.,
Associate in Obstetrics, University of Toronto.

Mr. Chairman, Ladies and Gentlemen.—There are few physicians to-day who do not systematically adopt measures for the relief of pain during the latter part of the second stage of labor, but there is not, I think, a general recognition of the advisability and value of the routine use of anesthetics, during the first stage of labor.

I am satisfied that the lessening of pain, *per se*, is a thing to be desired. In any condition other than labor the same amount of pain would not be tolerated, by patient or physician, for one moment longer than was necessary to get effective means into operation for its relief.

That the birth of children has always been attended with more or less suffering is no reason why it should continue to be so, when we have the means at our disposal to remove, or at least very materially lessen, that suffering.

Perhaps what has stood in the way of improvements of the condition of the parturient woman more than anything else is the fact that pregnancy and parturition are natural processes, and one hesitates to interfere with Dame Nature.

But pain is not a necessary accompaniment of muscular contraction, while in certain pathological processes, for example, membranous dysmenorrhea, we have similar painful uterine contractions which we do not hesitate to relieve.

The pain of the first stage of labor is largely confined to the uterus, and is due to the tension of its own fibres and stretching of its own lower segment.

If we succeed in administering something which will simply remove or lessen the pain attendant upon the contraction of the muscle without stopping the contraction itself, I am sure you will all agree with me that such a procedure is justifiable and advisable.

However beneficial pain may be in the development of the moral nature, I think I can say without fear of contradiction, that one's physical condition is never improved thereby, while, on the other hand, long continued or oft repeated great pain invariably results in more or less shock and exhaustion.

For the last eighteen months I have followed, as a routine, a plan for the relief or lessening of pain throughout labor, commencing treatment, in the first stage, just so soon as my patient begins to suffer pain of moderate severity, and I am satisfied that such a course is not only humane, but of great value in conserving the strength of the woman, thereby making her ultimate recovery more rapid and complete. Many times patients have

expressed themselves as having little recollection of the labor and consequently are without dread of the possibility or probability of succeeding ones.

My first experiments were made with hydrobromate of scopolomine and morphia, which, as you are all aware, has been used more or less extensively in various parts of the world for the production of general anesthesia with varying success.

There were objections to this combination which led me to abandon it after some half-dozen trials.

There was no question as to its power to control pain, and that without any delay in the progress of labor, but it had an unpleasant effect upon the patients, producing marked vertigo and at times delirium, while one infant was still-born and another only lived about twenty-four hours after birth.

There was no direct evidence that the deaths of the infants were due to scopolomine, but as the second one was delivered after a labor of only four hours' duration, I hesitated to use the drug again.

I could find no record up to that time, nor have I seen any since, of the use of this anesthetic in labor, and abandoned it as unsafe, pending the reports of others who might possibly be using it.

Even though this was not a complete success in all respects, one thing was amply demonstrated, and that was that suffering could be very greatly lessened, and at times completely abolished, without affecting the uterine contractions or the progress of labor.

It is unnecessary for me to waste time with a detailed account of these cases, but on two occasions the baby was delivered by the natural forces without the patient's knowledge, consciousness not being regained till two or three hours after delivery. Next day these patients said that they remembered nothing since shortly after the first hypodermic injection. Unfortunately, the danger to the child appeared to be too evident, and the experiments were dropped forthwith.

After abandoning scopolomine I tried morphia for a short time with some success, but the dose of the drug required was so much greater than when used in combination with scopolomine that it appeared at times to interfere with uterine contractions, thereby simply delaying labor and effecting no real good.

I finally adopted the morphia and hyoscine combination which one sees so much of in literature of late.

This has been given hypodermically, in doses varying from a sixth to a third of a grain of morphia and one one-hundredth to one-fiftieth of a grain of hyoscine, according to what seemed necessary from the severity of the pain, due regard being given to the age and weight of the patient.

The injection is repeated as required in from one to four hours, the patient being kept in a dozing condition so that she is roused by the pains but lapses again into sleep immediately after and usually without realizing just what has happened.

Even where the pains are severe enough to wake the patient she frequently does not remember anything about it after finally regaining consciousness.

Some patients have slight delirium, but it is not troublesome. They appear to dream, and talk incoherently, but are not in any way unmanageable.

It is best that no injection be given within two hours of delivery or some difficulty may be met with in getting the baby to breathe satisfactorily at once. In a few instances I have met with some trouble in this respect, but in every case have been ultimately successful.

In order that I may be reasonably certain that there will be no trouble through the baby being born with too much of the anesthetic in its blood, I withhold or materially lessen the dose where the cervix is almost or completely dilated, and if the membranes have ruptured, do not, as a rule, give any.

The plan I am advocating thus far is for the control of suffering during the first stage, and is not applicable to the second stage, just as chloroform is unsuited for the first, but a veritable God-send in the second, stage of labor.

The use of the hypodermic and control of suffering does not seem to affect the duration of labor, to any extent. I have not sufficient cases as yet from which to frame reliable statistics, as there are so many factors that enter into an obstetrical case that one would require a great mass of cases to be able to draw reliable deductions from them, but I have gone over the cases I have on record, picking out only primiparæ with apparently normal pelves and with the child presenting in the first position of the vertex, and I find that the duration of labor has averaged eleven and three-fifth hours, while the average duration of L. O. A. cases, multiparæ and primiparæ taken together, in the Toronto General Hospital during the last eighteen months, in which no morphia and hyoscine were given, has been ten and three-quarter hours.

I give these figures for what they may be worth, but do not consider them sufficiently comprehensive to admit of much weight being put upon them alone.

My distinct impression is, and I know that the house-surgeons at the hospital have a similar impression, that the first stage of labor is shortened in duration, while at the same time being shorn of many of its discomforts.

As to anesthesia in the second stage I have little to say. Chloroform, as you all know, is the anesthetic, *par excellence*, in this stage, but you will find that after the use of first stage anesthesia the amount of chloroform necessary is very materially lessened. In the early part of the second stage the anesthetics administered in the first stage are still active, so that it is only toward the end chloroform is required.

We have a very powerful instrument at our disposal in these drugs to which I have been referring, but to get satisfactory results they must be properly used, and therefore, at the risk of

repetition, I would formulate a few rules, for my own and others' guidance, *pro tempore,* in the further investigation of this matter. I do not consider that all is yet known of the possibilities or limitations of this treatment.

1. The dose should vary in proportion to the severity of the pain and the weight of the patient.

2. It should be used in diminished dose, if at all, after the second stage has begun.

3. It seems better to begin with a moderate or full dose, repeating small doses from time to time, than the reverse.

4. A small second dose following shortly after the first, where pain continues severe, is usually more satisfactory than a larger one at a longer interval.

A question which suggests itself to one in connection with this matter is:—To what extent is the limitation of families due to the apprehension and realization of the sufferings of labor? You have all, doubtless, been besought by women to terminate a pregnancy for no other reason than her fear of a repetition of a terrible ordeal still fresh in her memory. Might not the assurance of even a moderate degree of relief do much to eliminate "race suicide"?

75 Bloor Street East, Toronto.

ACUTE INFECTIOUS SUPPURATIVE CHOLECYSTITIS FOLLOWING INFLUENZA—OPERATION AND RECOVERY.*

BY W. H. PEPLER, M.D., L.R.C.P. (LOND.),
Assistant Physician, Toronto General Hospital, Toronto.

R. J., male, aged 63 years, a tailor, with an unimportant family history, and absolutely without any history of previous disease, was taken suddenly ill on February 25th, 1907, with a typical acute attack of influenza, suffering from severe pains in the lumbar muscles, thighs and calves, violent headache, accompanied by fever, loss of appetite, and general malaise. About the second week in March he complained of pain in the epigastrium which became continuous and quite acute at times. The bowels were costive, motions showed presence of bile, no discoloration of skin nor mucous membranes. He vomited some mucous and foodstuffs on two or three occasions, which was accompanied by considerable retching.

The patient was first seen by me on March 13th, 1907. A healthy looking and well nourished man; height 5 feet, 9 inches, weight 170 lbs., complexion rather pale, skin moist, tongue furred, white and moist. Pulse about 80 to the minute, regular, of good force and volume, no sclerosis, temperature 100 deg. F. Patient depressed and despondent. Examination of thoracic cavity was negative; liver area not increased; no enlargement of spleen nor stomach. There was considerable tenderness over the epigastrium and right hypochondrium, no thickening nor swelling could be felt anywhere over abdomen, no jaundice, urine opaque, yellow, acid reaction, sp. gr. 10.30, no albumen, no sugar, no bile, urates abundant. Blood not examined. He was ordered absolute rest in bed, hot fomentation over upper part of abdomen, liquid diet, calomel followed by a saline, to be repeated if necessary.

I visited patient next day, March 14th. No change in symptoms and the physical examination simply confirmed the previous findings.

March 15th, found pain and distress considerably increased, the least movement or jolting causing a sharp pain in the region of gall-bladder. Nausea and retching on taking any nourishment. Expression somewhat anxious, face pallid, but no yellow discoloration of skin nor mucous membrane. Pulse remained about 80, rather poorer in volume; temperature 102 deg. F.

The tenderness seemed more localized to the left of right vertical nipple line at costal margin; the remainder of abdomen could be palpated without causing pain, except when deep enough to cause dragging on upper quadrant. By careful palpation and with

*Read before Toronto Clinical Society, March, 1907.

co-operation of patient in bearing pain, the fundus of gall-bladder could be readily felt as an elastic tumor, calculated to be about the size of an English walnut. This tumor was exquisitely tender. The fæces were of healthy color and consistence, the urine free from bile; there were no rigors, but considerable sweating; temperature was of continuous character, not septic.

Concluding that I had a cholecystitis (probably suppurative) to deal with, which required immediate operation, I called in the assistance of a surgeon, who concurred in my opinion, and on March 17th, under an anesthetic, an oblique incision along the free border of the ribs was made, which revealed a considerable mass of fresh adhesions involving omentum and parietal peritoneum, and which hid the gall-bladder. On breaking through these adhesions the distended gall-bladder came into view, which was first aspirated and later incised. Eight or nine ounces of an odorless, sero-purulent fluid was removed. No bile and no gall-stones were found in bladder. Cystic duct was patent. The walls of the gall-bladder were somewhat thickened and distended, the mucous lining congested and roughened.

The cavity of the gall-bladder was thoroughly drained and a tube left in: the bladder was stitched to peritoneum. The patient made an uninterrupted recovery and left the hospital in two weeks after operation.

Appendix was found normal.

Dr. Graham, of the Toronto General Hospital Pathological Department, took charge of the fluid from the gall-bladder and reported the finding of bacillus coli communis. No search was made for the bacillus of influenza.

There have been a number of cases reported where influenza has been followed by a train of symptoms pointing to cholecystitis, without any history of gall-stones, typhoid or appendicitis, but these cases all recovered without operation, thereby not substantiating the diagnosis.

Influenza is responsible for many cases of septic peritonitis, mastoiditis, suppurative endocarditis, meningitis, orchitis and nephritis, etc. Why not add acute suppurative cholecystitis to this lengthy list?

Fütterer has demonstrated that in a few minutes after the injection of micro-organisms into the circulation these organisms appear in the bile, and he has reported 13 cases of acute inflammatory lesions of gall-bladder in 19 typhoids without gross obstruction in biliary passages.

Carnac reports a case of acute suppurative cholecystitis with operation in the first few days of typhoid.

Robson considers that infection by pyogenic organisms is probably in every case of suppurative cholecystitis the true cause.

In fifty-five cases of suppurative cholecystitis reported by Courvoisier, forty-four were associated with calculi, but calculi are no more necessary to these cases than enteroliths to appendicitis.

Dr. Alexander McPhedran, in his excellent article on diseases of the liver and gall-bladder, which appeared in Sajous' "Annual of Practical Medicine," of 1899, speaks of acute infectious cholecystitis as a rare condition, about 75 per cent. of which are associated with gall-stones.

The course of infection in the influenzal cases is no doubt similar to that of typhoid, viz., either by portal vein, hepatic artery, direct extension up common bile duct, or even through bowel wall.

In the case reported above the inflammation appears to have been limited to the gall-bladder, not involving the ducts, as is usually the case in typhoid infection. No definite disposing cause was found, if sedentary occupation, three glasses of ale each day, and constipation be excluded.

All the authorities are agreed that the condition of acute suppurative cholecystitis is often very obscure, the symptoms and signs being only those of a general peritonitis or intestinal obstruction. It also simulates subphrenic abscess, appendicitis and duodenal ulcer. Therefore the greatest care should be taken in the diagnosis of these suppurative cases as success depends upon an early operation.

INGROWING NAIL AND HAMMER TOE.

BY B. E. McKENZIE, B. A., M.D., TORONTO.

Two common and very troublesome affections of the toes can be treated and cured effectively by very simple means.

Hammer Toe.

This affection consists of hyper-extension of the first phalanx, and acute flexion of the second, causing the joint at the junction of these phalanges to press upward against the boot, producing a painful corn. The distal end of the ungual phalanx is sometimes pressed so hard against the sole of the boot as to form another corn at the extremity of the toe. It is commonly the second toe which is thus affected. The deformity is due chiefly to the contraction of the lateral ligaments and of the fibrous plate which strengthens the capsule at its plantar aspect. While boots which are too short may have some influence in producing the deformity, especially when the second is longer than the great toe, yet it is not generally due to that cause. Heredity is found to be a marked pre-disposing factor.

Treatment.—Within the limits of my observation amputation has been recommended. Section of the flexor tendon fails because the deformity is not due to contraction of the flexor muscles. Removal of the toe by amputation is quite unnecessary, as excision is followed uniformly by success. An incision should be made over the inner side of the joint, the lateral ligaments divided and the joint surface removed with bone forceps. It is better thus to remove the articular surface from both phalanges in order to secure a synostosis. This effectually cures the deformity, while by any other means except amputation it is liable to recur. The tendons need not be interfered with if the operation be performed as described. After closing the wound a splint may be applied to keep the toe in place, but a plaster of paris bandage is more effective and less liable to slip out of position. The end result of this treatment is uniformly successful.

Ingrowing Toe Nail.

Ingrowing toe nail is seldom seen except in the great toe. Here ill-fitting boots are a prolific cause of the trouble, but certainly not the only one. The outer border of the nail is the part which most commonly seems to grow down into the soft tissues, but frequently both borders of the toe are affected. It is the flesh which is pushed upwards toward the nail and the median line of the toe which gives

the appearance of the nail growing into the flesh. Where the soft tissues come into contact with the nail the skin becomes eroded, granulations spring up, and suppuration occurs. The condition is a very painful one and has generally proved intractable.

Treatment.—Perhaps the treatment most commonly adopted is that of pulling the nail, or a portion of it, away, but this is unavailing, as the new one which forms gives more trouble usually than the former. Better success attends the removal of the matrix, thus getting rid of the nail entirely. A considerable section of the soft tissue can be removed, thus narrowing the toe, and stitching the skin flap well under the edge of the nail. This is generally attended with a good measure of success.

A much simpler and more effective plan than either of the foregoing is to pack absorbent cotton between the nail and the flesh, using some mild antiseptic powder. So soon as the edge of the nail and the flesh are thus separated healing commences and tenderness and pain soon pass away. This may be continued for days or weeks, the cotton being packed further in as the tenderness subsides. At first the packing should be removed and fresh cotton applied three times a day. As the discharge becomes less the dressing may remain for a longer time. The patient may be instructed how to do this, and the treatment is so simple that recurrence need not take place. After following this plan of treatment for a number of years I have never known it fail, even in the worse cases.

Selections, Abstracts, Etc.

THE TREATMENT OF INOPERABLE MALIGNANT TUMORS —CARCINOMA.*

BY J. M. G. CARTER, M.D., Sc.D., PH.D., WAUKEGAN,

Emeritus Professor of Clinical Medicine, University of Illinois; Fellow of the American Academy of Medicine; Ex-President of the Illinois State Medical Society, etc.

CASE 1.—Mrs. S., aged 50. She had suffered no serious illness prior to the beginning of her present ailment, about one year before my first visit. Her first symptoms were indigestion, flatulence, heartburn, eructation of gas and similar disturbances of the stomach. The symptoms had gradually grown worse until pain and vomiting had supervened some weeks before. She had lost flesh and grown weak. At the time of my first visit, the patient was lying on a couch, in pain, pale and cachectic. She had been vomiting and apparently had suffered much. The ejecta having been destroyed, no opportunity offered to analyze the vomited material at that time. The temperature was normal. Temporizing treatment was adopted and the patient was not seen again for a week. Then I was summoned hastily to see her and found her vomiting and in great pain. She had not been free from these symptoms since my former visit. This time, following my directions, the vomited material had been reserved for examination. The patient had not improved. The ejecta were typical and abundant and contained dark grumous material, mucus and remnants of food. The occurrences of vomiting were periodical. A distinct tumor could be outlined at or near the pylorus. The bowel evacuations also contained a dark material. Chemical examination showed increase of lactic and absence of hydrochloric acid. The microscope showed cell-nests and bacteria. Diagnosis, carcinoma of the stomach.

Treatment.—The local treatment consisted of the use, by mouth, of a 2 per cent. solution of hydrozone. The patient was told to drink half a pint of this solution half an hour before mealtime, lie on the back for five minutes, then turn on the right side and remain in that position or twenty-five minutes. This remedy was given for its antiseptic effect. The internal treatment was

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nuclein. The particular preparation was Reed and Carnrick's protonuclein. The dose was 24 grains a day. This time the patient was kept under observation for a month, until the symptoms were not quite so severe. The treatment was continued, however, and after several weeks I called to see the patient in another exacerbation of her symptoms; but this time they were not so severe. After a few days I dismissed her again, with advice to continue the nuclein, but to omit the hydrozone. Some five months later I called to see the patient and found her at work about the house. The symptoms and tumor had disappeared and the cachectic look had given place to a more healthful appearance. I did not see her again, but three years later I was informed that she was well and had had no return of the old symptoms.

Case 2.—Mrs. E. C., aged 45. She was a very active woman and had become overtired in the spring and early summer of 1898, caused by unusual demands upon her strength. Upon my recommendation, she took a vacation in the month of August for rest and recuperation. After her return home, about September 1, she entered into the rush of social and other duties as before. In about three weeks pain in the region of the appendix led the patient to make pressure there to see if she could discover the cause of her distress. She could distinctly feel a tumor, and my attention was immediately called to the growth. Fearing appendicitis, she was ordered to go to bed, and a system of expectant treatment was adopted and results awaited. The symptoms did not change as time passed on, except to grow more severe. The tumor was painful, tender upon pressure; there was indigestion, nausea at times, constipation, flatulence, loss of flesh and, finally, difficulty in using the right leg because of the pain and soreness in the cecal region. The pulse and temperature were normal. After the patient had suffered for six weeks, I called Dr. H. P. Newman in consultation. Upon his recommendation, the patient was taken to Marion Sims Sanitarium for operation. The operation was done Nov. 14, 1898. When the abdomen was opened, a tumor, the size of a child's head, was found located at the cecum. Infiltration was extensive, involving the adjacent intestinal, peritoneal and parietal structures. No microscopic examination was made, but the macroscopic appearances were those of carcinoma, and that was the diagnosis. The adhesions were so great that no attempt was made to remove the growth. The friends were told that the patient could not live more than three or six months. I undertook the almost hopeless task of medical treatment. Remembering the success of the treatment in Case 1, with Dr. Newman's permission, I began the administration of nuclein. For about two weeks after the operation the symptoms of obstruction grew worse. In a month she was taken home. I was very anxious

to do something more, if possible, to help the patient to recover, and so consulted Dr. J. B. Murphy. At his suggestion I used Arsenauro, a preparation of bromides of gold and arsenic. These two agents, nuclein and the bromide of gold and arsenic, constituted the treatment I used with this patient for the next five months. After returning home, the patient was kept in bed for some time. The entire time of keeping the reclining position was six weeks. This was a part of the treatment. One of the most annoying symptoms while in the hospital and for a while afterward was sciatica; this was on the right side and at times was excruciating. Three months after the operation the symptoms were less severe and the tumor had not increased in size. From this time the patient was out of bed and exercising as her strength would allow. Her symptoms continued to grow less severe and the tumor to diminish in size. The first of May the bromide was dropped, chiefly because the patient did not wish to take it any longer. The symptoms had subsided and the tumor was quite small. The nuclein was continued. On the first of May I went to Europe, returning about the first of July. At that time the patient was attending to her usual duties. Examination revealed the satisfactory but astonishing fact that the tumor was gone—had enirely disappeared—and there was complete absence of all symptoms or distress. It has now been seven years since the cure, the patient is very well, and there has never been any indication of returning trouble.

ABSTRACTS.

A Case of External and Internal Anthrax.—Lengfellner gives the history of a case in which the primary lesion was an anthrax pustule on the side of the neck, with secondary anthrax lesions in the lungs and intestines.—*N. Y. Medical Journal.*

Calcium Salts in Pneumonia.—Brunton calls attention to the tendency to cardiac failure in the epidemic of post-influenzal pneumonia now prevalent in England. Such cardiac failure may, he thinks, be to some extent averted by the free use of calcium salts, which have a tonic action on the heart. The only harm it is likely to do is to increase the coagulability of the blood, but this is small, compared to the risk from cardiac failure. It is given in five to ten grain doses every four hours, simply dissolved in water. As it is very deliquescent, it can only be kept in solution. It has a very disagreeable saline taste, but this can be very well covered by saccharine, one-twentieth of a grain of which is sufficient for every ten grains of the calcium chloride. Encourag-

ing results have also been obtained in cases of cardiac disease, where the ventricular wall appeared to be losing power. It is quite possible that the great benefit frequently observed from the use of milk diet in cases of heart disease may be due, in part at least, to the large quantity of calcium salts the milk contains.—*N. Y. Medical Journal.*

Delayed Chloroform Poisoning.—Renton reports two cases of delayed chloroform poisoning in adults. The first case was that of a woman, aged twenty-six years, who was operated on for appendicitis. Vomiting persisted after the operation, and the patient died five days afterward. The second case was also that of a woman, who was aged twenty-eight years, and was operated upon for pyloric stenosis. She died four days after the operation. Post-mortem the changes noted corresponded with those seen in other cases of late chloroform poisoning, which point to the action of some toxic substance on the heart, liver, kidneys, etc. —*N. Y. Medical Journal.*

Diet and the Thyreoid Gland.—Fordyce has studied the effects of various diets on the thyreoid glands of rats, and finds that the variations in structure are constant within narrow limits and corresponding to the diet employed. In milk-fed rats the vesicles are large and well filled with colloid material. The gland of a rat fed on bread and milk shows the vesicles to be markedly smaller and to contain less colloid. The glands of wild rats occupy a median position.—*N. Y. Medical Journal.*

Thoracic Aneurysm.—Oliver tells us that thoracic aneurysm is much more common among men than among women, those affected being commonly in the early part of the prime of life. It is during the strenuous part of a man's life that the diseased aortic wall yields before the strain. In at least one-half the cases syphilis is the principal cause; add to these the ones due to muscular strain and alcohol, and you have the origin of almost all the cases. In nearly all cases there has been some pre-existing disease of the walls of the aorta, of the middle coat in particular. Mediastinal tumors and malignant disease of the lungs and spine are the conditions most frequently mistaken for thoracic aneurysm. One of the earliest symptoms is pain in the chest, not always well defined or localized, usually worst at night, and aggravated by exertion. Added to this are accentuated ringing cardiac second sound and absence of albuminuria, in a healthy-looking man, and the existence of thoracic aneurysm is very probable. Among the physical signs dulness on percussion and pulsation over a limited area are very important. When to these are added vascular bruits the diagnosis is complete. When the aneurysm arises just above the aortic valves, it may escape detection until it causes

death by rupturing into the pericardium. Most frequently thoracic aneurysms spring from the convex side of the first part of the arch of the aorta. Aneurysms of the transverse portion of the arch arising from the posterior wall give rise to serious symptoms, as they press upon the trachea and œsophagus and interfere with respiration and deglutition. "Tracheal tugging" is most marked in such cases. Aneurysms of the descending portion of the thoracic aorta often cause erosion of the vertebræ, with excruciating pain. As regards treatment, rest in bed and quietude are essential, accompanied by a restricted diet. Cases where there is also aortic regurgitation are less amenable to treatment than the ones where that complication exists. Potassium iodide gives the best results of any drug, and it frequently relieves pain and paroxysmal dyspnœa. There is nothing to be gained by administering very large doses. But there are few real cures recorded.—*N. Y. Medical Journal.*

The Assumed Etiological Significance of Sarcolactic Acid in Eclampsia of Pregnancy.—Donath considers this acid to be harmless, to have no pathogenic significance in eclampsia of pregnancy, but to be a secondary symptom, the product of the muscular spasm.—*N. Y. Medical Journal.*

Erroneous Interpretation of a physical Condition of the Chest in Children.—Neumann describes a condition of dulness and bronchial breathing at the apex of the right lung, very rarely of the left, with prolonged expiration, but without râles, which has often led to a diagnosis of pulmonary trouble. He ascribes these physical signs rather to an enlargement of the bronchial lymphatic glands, particularly those which extend from the hilus of the lung to the bifurcation of the trachea, and when there is also mediastinal dulness, to swollen mediastinal lymphatic glands. The condition of healed tuberculous processes in the lungs which may produce the physical signs of dulness and bronchial breathing without râles, may be said not to exist in children. The swelling of the bronchial glands is usually tuberculous in its nature.—*N. Y. Medical Journal.*

Quinine Amaurosis.—Seeligsohn reports a case in which a woman, 36 years old, took six grammes (92.12 grains) of quinine within three days, and then suddenly became deaf and blind. Hearing returned within twenty-four hours, but the first trace of light perception returned ten days later, and it was about two months before her vision completely returned. The fundus exhibited a picture similar to that seen in embolism of the central artery of the retina followed by that of atrophy of the optic nerve. The visual field, when it could first be taken, was concentrically contracted, then gradually enlarged until in the course of two months it was normal for white. A marked and perma-

nent injury of color perception remained. The reaction of the pupil to light and accommodation which was at first completely lost gradually became normal, but somewhat decreased again during the following year.—*N. Y. Medical Journal.*

Cerebrospinal Meningitis.—Vorschutz reports five cases of this disease treated by means of Bier's stasis and lumbar puncture with only one death.—*N. Y. Medical Journal.*

Cysticerci in the Fourth Ventricle as the Cause of Sudden Death.—Verse reports two cases of sudden death, in each of which a cysticercus was found in the fourth ventricle on autopsy.—*N. Y. Medical Journal.*

One Hundred and Seven Labors in Half Narcosis from Scopolamine and Morphine.—Bass states that the pains of labor may be assuaged in the great majority of cases by injections of scopolamine and morphine. In many cases the labor is protracted by this means, but usually without detriment to mother or child. He met with no injurious after effects upon the mother. —*N. Y. Medical Journal.*

The Stringed Electrometer.—Cremer finds the stringed electrometer more useful in electrophysiology than the quadrant electrometer or the capillary electrometer for the investigation of the origin of the demarcation current in muscles and nerves, of the electro-tonic current in nerves, and of the polarization current in animal organs. Furthermore, he says that sounds may be analyzed by it with the aid of a microphone and transformer.—*N. Y. Medical Journal.*

The Physical Treatment of Tabes Dorsalis.—Tobias and Kindler consider in this, their first paper in a series, the effects which may be obtained by diet, massage, and gymnastics. They say that there is no special diet for tabetics, but by attention to the diet of the individual patients certain benefit can be obtained. Massage is of benefit in the first place in the general disturbance of the organism, and in the second place to some symptoms of the disease. General gymnastic treatment is indicated only in initial cases.—*N. Y. Medical Journal.*

Microscopic Worms in the Stomach of a Person Suffering from Ozena.—Frese reports the case of a girl sixteen years old who was under treatment for ozena and also gastric trouble. On account of the latter her stomach was washed out and numerous microscopic worms were found in its contents. These disappeared after two months of systematic washing of the stomach. No worms were found at any time in the nasal secretion. No parasites or eggs and no Charcot's crystals were found in the stools. He gives a very full description of the parasites. They were

always found mixed with the pus cells and mucus from the nose. —*N. Y. Medical Journal.*

Hemophilia.—Groves reports three cases of hemophilia which exhibit some of the surgical aspects of the disease, especially the rare condition known as Volkmann's contracture. This contracture of the fingers is caused by pressure on the muscles of the forearm, depriving them of blood. Some of the fibres of the delicate and highly organized striated muscle then die or undergo rigor mortis, and are replaced by fibrous tissue or, rarely, by bone (myositis ossificans). This causes contracture, wasting, and pseudoparalysis. There is also some actual shortening of the bones which is difficult to account for; it may be due to lessening of the blood supply to the bone. From a surgical point of view the treatment of hemophilia may be summarized as rest and pressure. When the joints become swollen they should be firmly bandaged and kept at rest until the effusion subsides. It is by neglect of this treatment that the ligaments become stretched and weakened, and the changes of osteoarthritis. For the external bleeding do nothing but keep the patient in bed. No remedies, local or general, have any effect upon the hemorrhage, and therefore it should be left alone and attention turned solely to treating the patient's general condition. If this rule was always followed from the commencement of the bleeding, probably many lives would be saved.—*N. Y. Medical Journal.*

Cancer.—Heron's studies of cancer show that the cancer rate is highest among both men and women where (1) the birth rate is lowest, (2) where the proportion of professional men in the population is highest, and (3) where most domestic servants are kept. In other words, cancer appears to be always correlated with higher social status.—*N. Y. Medical Journal.*

Acute Infection of the Nervous System.—Buzzard, in the first of his Goulstonian lectures, deals with certain acute infective diseases of the nervous system, the leading characteristic of which is acute paralysis. A rapidly developed motor paralysis, involving the whole, or nearly the whole, of the voluntary musculature, is the important and conspicuous feature. Cases answering to this description may be classified under the following titles: (1) Acute anterior poliomyelitis; (2) Landry's paralysis; (3) acute toxic polyneuritis; and (4) acute ascending or diffuse or disseminated myelitis. As regards the acute toxic changes in the cells, the histological appearances are not different from those produced by other influences, and no poison can be said to evoke an anatomical cell change which is different from that evoked by other poisons. There are two definite channels or paths by which bacteria or their toxines may reach the central nervous system and be disseminated within it. These are the blood and the lymph.

The blood supply of the central nervous system is so arranged that the richest vascularization is associated with the presence of the most active elements or ganglion cells, whereas the more passive conducting paths are content with a somewhat poorer portion. The gray matter of the cord, with its rich capillary network, and especially that of the cervical and lumbosacral enlargements, is more exposed to circulating toxines than the white matter. Emboli in the cord are rare, owing to the tortuosity and small calibre of the arteries. When embolic infarcts do occur in the cord they are found both white and gray matter, perhaps with a little preference for the latter, owing to the larger calibre of the anterior spinal artery. As regards the lymphatics, the writer makes the following deductions: 1. That organic and inorganic substances when present in the lymph spaces of nerves tend to be carried centralwards towards the spinal cord and meninges, and especially through the posterior spinal roots. 2. Entry into the spinal cord is made chiefly along the various septa within the lymph channels of the radial vessels and along the anterior, but more particularly the posterior roots. 3. That the same substances within the spinal cord and its membrane appear to travel upwards mainly between the meninges and along the central canal. 4. The changes within the cord resulting from its bacterial or toxic infection through these lymph channels are somewhat patchy and irregular, affecting the gray and white matter alike, with a special incidence on the posterior columns. 6. The morbid histological processes consist of toxic changes in ganglion cells, blood extravasations, small round cell infiltration of the tissues and perivascular sheaths, and parenchymatous degeneration of the nerve strands.—*N. Y. Medical Journal.*

The Magnet Operation —Hirschberg successfully removed a piece of iron from within the eye twenty-seven years ago, and has since then performed the operation 347 times. The most interesting part of his statistics is that of the eight years between 1896 and 1903, during which he performed the operation 64 times, and secured good and permanent vision of the injured eye in 36 cases, or 56 per cent. In 23 patients of these 36 cases the vision secured was very good, from one-half to one. In nine the fragment of iron was removed from the vitreous, in 27 from the retina; 22 were fresh cases, 14 were old. In 6 of the 64 cases, 9 per cent., the form of the injured eye was preserved, but the sight was lost. In 22 of the 64 cases, 34.5 per cent., the injured eye had to be enucleated. In the great majority of these 22 cases the fragment was very large, or the eye was lost from cyclitis or sepsis. In four of the 64 cases the magnet failed to remove the foreign body. He reports two interesting cases operated on in 1906 and 1907.—*N. Y. Medical Journal.*

The Canadian Journal of Medicine and Surgery

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Editorials.

THE MEDICAL TREATMENT OF APPENDICITIS.

OUR correspondent, Thos. M. Johnson, M.D., Buffalo, N.Y., wishes to have our opinion as to the medical treatment of appendicitis, "a matter of great importance, especially to country practitioners." This would mean, doubtless, a reference to the remedies suitable in any case of appendicitis until the services of a surgeon can be obtained, or the treatment which suffices for cases

in which an operation is not required. From the standpoint of the surgeon, every case of appendicitis belongs to the domain of surgery. It does not follow, however, that a surgeon, called to see a case of appendicitis, should operate immediately. According to his convictions, or his appreciation of the case at the moment he sees it, he may decide in favor of an intervention, or he may temporize. The medical treatment of appendicitis recommended by high authorities in Europe and America—Reynar, Howard Kelly —consists in rest in bed in the dorsal position, abstinence from food, an ice-poultice over the abdomen, and opium. In his book, "The Vermiform Appendix, with Its Diseases," Dr. Howard Kelly writes: "If the patient is constantly watched by a nurse and the surgeon makes his visit at first from two to four times a day, any increase in the symptoms denoting an undue extension of the disease will at once be noted, and the surgeon will be in readiness to abandon the medical treatment, without a moment's delay, in order to attack the disease by the more direct measures of surgery." No food should be given, in order to secure freedom from peristalsis and to unload the bowel of materials which might escape into the peritoneum. Appetite for food is generally absent; thirst may be satisfied with sips of iced water, lemonade, cold tea, or, if preferred, hot water to rinse the mouth. A light-weight ice-poultice contained in a rubber bag should be applied over the abdomen, a piece of flannel being interposed between the ice-bag and the skin. The ice should be renewed, night and day, at least every three hours. Neither a blister nor any preparation likely to irritate the skin should be applied to the seat of pain.

Morphine should be given in sufficient doses to procure relief from pain, to keep the intestines in a state of rest, and, by checking peristalsis, to favor the formation of adhesions, which will wall off the affected area and prevent a general peritonitis. Morphine may be given hypodermically, or by the mouth, for several days, until all symptoms of disease have subsided and a general improvement is noted. Large doses of this drug should not be given—only enough to keep the patient free from pain. The patient's urinary functions will require watching to see that the urine does not become too much diminished in quantity. A nurse should be in constant attendance, for, owing to the freedom from pain which results from the continued use of morphine, the patient may try to get out of bed and do himself a serious injury.

The use of enemas or laxatives calls for caution. Before giving an enema the patient's rectum should be examined, digitally, by the surgeon, who will then be able to decide on the propriety of the procedure. If dry, impacted feces are found in the rectum, small enemas of oil will be useful. Some authorities advise the use of calomel, or castor oil, by the mouth after the acute symptoms have subsided. The use of strong saline cathartics is not recommended. If this medical treatment is adopted by a physician he will be in a position to judge of the complications which necessitate a surgical intervention, and, should it be necessary, he may call in a surgeon and prevent a tragical ending of the case.

In an article entitled "The Non-Surgical Treatment of Appendicitis," published by Dr. Marrs in the *South-Western Medical Gazette,* three successful cases of appendicitis, treated without surgical operation, are recorded. The treatment in these cases consisted of rest in bed, fluid diet, an enema at the start, mild salines on the fourth day, morphine for a few days in some of the cases. Instead of morphine Trask's ointment was painted over the patient's abdomen, the ointment being afterwards covered with oiled silk. "This ointment is a preparation of several vegetable sedatives and depressants; it contains no opium, cocaine, or other of the commonly used analgesics; its most active ingredient is tobacco."

As appears in Dr. Marrs' paper, the general plan of treating appendicitis medically was conducted in accordance with the recognized rules of practice. The substitution of Trask's ointment for morphine calls for some explanation. Dr. Marrs does not offer any theory to show how or why the tobacco ointment proved curative in his three cases. Sedatives applied to the abdomen in appendicitis may relieve pain, but do not cure the appendicitis. At all events, a physician who confines his treatment of appendicitis to the use of certain internal and external medicines should not deceive himself or mislead his patients as to the legitimate scope of such therapeutic efforts. In some cases they will prove efficacious, in others they will fail. The intelligent physician should be prepared to make way for the surgeon as soon as the indications point towards an operation. J. J. C.

DR. PYNE'S RETIREMENT FROM THE POSITION OF REGISTRAR.

At the annual meeting of the Council of the Ontario College of Physicians and Surgeons, held last month in Kingston, Ont., Hon. Dr. Pyne was again nominated as Registrar, a position which he has retained for twenty-seven years. Dr. Pyne announced that he could not again accept the position. His resignation was accepted with many regrets. By a tasteful gift of silver and the unanimous adoption of the following resolution, the Medical Council of the Ontario College of Physicians and Surgeons showed their appreciation of Dr. Pyne:

"Members of the Ontario Medical Council, with sincere regret, part with their esteemed Registrar, Hon. Dr. Pyne, after a faithful and continuous service of well nigh thirty years. These years have witnessed the formative period of medical education in the Province of Ontario and in the Dominion of Canada. The high standard of medical education in the country, its exemplary ethical life, its culture and its history of noble and philanthropic deeds, may fairly be attributed in no small degree to his unremitting energy and vigilance. He has always been a thoughtful and considerate friend of the student body. With great tact and never-failing courtesy, kindness of heart, his rare experience has directed the Council in many trying situations. Ontario has had a faithful servant in Hon. Dr. Pye during these years, and we who know him best and the high value in faithful labor he has rendered to the State, have pleasure in acknowledging our indebtedness for his efforts in the cause of humanity and for the public weal."

Hon. Dr. Pyne thanked the members of the Council for their kind words of appreciation and referred to the work of the Council during the twenty-eight years he has been identified with it. It was a work that he enjoyed, and he regretted very much to have to give it up. The progress of the Council, he said, might be compared with the progress of the Dominion of Canada, which had just celebrated its fortieth birthday. There had been marked progress, and while retiring from the position of Registrar, he would have fond recollections of the times spent in the service of the Council.

In Toronto, his home city, Dr. Pyne has been popular with

college men, physicians and citizens alike. As Registrar his work has been given careful attention, and his unfailing courtesy has won for him the respect and golden opinions of all with whom he has come in contact, and all are genuinely sorry to part with his services as Medical Registrar. W. A. Y.

DR. LUCAS-CHAMPIONNIERE'S EXPLANATION OF THE ROLE OF NEPHROPEXY.

The neurasthenic and even mental disorders noted in cases of floating kidney, and their cure by nephropexy, formed the subject of a paper read by Dr. Lucas-Championnière at the Academy of Medicine, Paris, June 11th, 1907. After mentioning that this condition was more common than was generally supposed, he said that the ailments, complained of by patients who had it, did not arise from a derangement of the urinary function, such as might arise from the kinking of one of the ureters, or from a falling of the intestines (enteroptosis). They appear to be due, rather, to a dragging, or an excitation, of the suprarenal gland, which remains in its place with its nervous plexuses, the functional importance of which has been revealed by modern physiology. This new explanation, he said, enables one to understand the great frequency with which disorders of the nervous system occur in persons suffering from floating kidney. Even in the simplest cases of that disease, the nervous phenomena are out of proportion to the apparently slight importance of the dislocation of the kidney. All forms of ailment, ranging from the most serious disturbances of nutrition (vomiting, weakness, emaciation, pains in different parts of the body), up to the severest forms of neurasthenia, have been observed in this disease. Some cases of floating kidney are accompanied by disorders of the brain. The frequency with which floating kidney has been discovered to exist among the insane is remarkable. Lucas-Championnière thinks that nephropexy is an experiment, showing that the shocks produced by the dragging of a movable kidney are the cause of the ailments from which the patient has suffered, and the reason for his opinion is because nephropexy has no effect whatever on the accompanying enteroptosis. Nephropexy appears to prove curative by anchoring the floating kidney and

thus preventing pathological excitation of the suprarenal gland. His operations have been uniformly successful in relieving the nervous manifestations, failure to do so being uncommon when fixation of the floating kidney has been accomplished in a solid manner. Out of sixty operations, only two have failed to yield satisfactory results.

The new theory of the origin of the ailments arising from mobile kidney explains, he said, why so simple and limited an operation as nephropexy yields satisfactory results. The operation has been especially criticized, because its critics have not taken into consideration the reason why so limited an operation could remedy so grave a lesion as enteroptosis. Dr. Lucas-Championnière thinks that nephropexy is indicated in grave nutritive disorders and in nervous conditions. The interesting observations of Dr. Suckling, of Birmingham, showing that in twenty cases of insanity the disorder of the brain was cured after nephropexy had been done, are quite remarkable. It had occurred to Dr. Suckling that it would be proper to advise this operation in certain cases of insanity after he had observed an extraordinary frequency of mobile kidney among the insane patients whom he had examined.

Dr. Lucas-Championnière has not noted insanity among his own patients, but he has successfully performed nephropexy on two patients who had made suicidal attempts.

In his "Manual of Operative Surgery," Philadelphia, 1905, Dr. Binnie explains the evil results of movable kidney in another way, in keeping, we take it, with the ordinary view entertained by surgeons. He says: "Mobile kidney is exceedingly common, and in the majority of cases presents no symptoms. When symptoms are present they may be those of neurasthenia, in which case fixation of the kidney can scarcely be expected to do more than give mental relief. Of course, cases do occur in which the mobility of the kidney is the causative factor, where tension exerted on the structures of the hilus of the kidney gives rise to trouble, and where kinking or displacements of the ureter occasion distressing symptoms and conditions. It is in this comparatively small class of cases that nephrorraphy gives gratifying results."

In this statement Dr. Binnie does not attempt to explain the nutritive, nervous and mental disorders observed in cases of floating kidney. He ascribes the favorable results noted after nephropexy has been done to the fact that kinking of the ureter and twist-

ing of the nerves and blood vessels of the mobile kidney are prevented by the fixation of the kidney, but says nothing of the *restitutio ad integrum* of the suprarenal gland of the same side.

Dr. Lucas-Championnière considers that these accidents to the movable kidney itself are of minor importance, the grave evils to the organism arising from the violent stretching of the nerves of the suprarenal gland. "These nerves," as we read in Gray's Anatomy, "are exceedingly numerous, are derived from the solar and renal plexuses, and, according to Bergmann, from the phrenic and pneumogastric nerves. They enter the lower and inner part of the capsule, traverse the cortex and terminate about the cells of the medulla. They have numerous small ganglia developed upon them, from which circumstance the organ has been conjectured to have some function in connection with the sympathetic nervous system." According to Sajous, the adrenal body, thyroid gland and anterior pituitary body are the active agents in all oxidation processes within the organism.

Violent stretching of the nerves of a suprarenal gland would, therefore, be likely to cause disorder in associate nervous plexuses. Again, violent stretching of the arteries and veins entering at the hilus of a suprarenal gland might cause hemorrhages into its cortical or medullary tissue. In view of the important offices in nutrition ascribed by physiologists to the suprarenal glands, injuries to their nerves and vessels are certain to produce evil results in the organism. Hence the force of the arguments of Dr. Lucas-Championnière—that the real object sought in anchoring a floating kidney is to protect from mechanical injury the nerves and blood vessels of the suprarenal gland of the same side. J. J. C.

THE KELLER HOSPITAL, IRONTON, OHIO.

It is with pleasure we offer our congratulations to Dr. Lester Keller upon the realization of his dream of the private hospital—good in construction, handsome in outline and equipped perfectly, a small world of comfort and cheer to those who enter its doors for treatment. Associated with Dr. Keller are several other physicians who are well-known throughout Ohio and Kentucky. May the name and fame of the new hospital spread far and wide and the gold buried be soon dug up again. W. A. Y.

EDITORIAL NOTES

Some Reflections on Euthanasia.—As a matter of fact, a good many nominal Christians do not believe in the creeds of their Church. They pretend to believe in a future state of rewards or punishments, but they live, and leave this life, as though there was to be no accounting for actions done here, in the life beyond the grave. Others confess to their friends, and admit to themselves, that there may be an after-state, but profess inability to solve so inscrutable a question, and pass outside the bar with a large note of interrogation in the mind. To both of these classes an easy, calm death is a seeming blessing—a painful state of the body, an anxious condition of the mind before death, regrettable circumstances, to be prevented at all hazards. The sick man, who has the Christian's faith, prefers to endure some pain of body and a searching recollection of his past, rather than have his brain clouded with narcotics during the hours which precede dissolution. We have felt it a duty to write this note, because, more and more, the office of a physician, in the impossibility of averting a fatal issue to a disease, seems to be concerned in procuring euthanasia. Two principal reasons seem to account for this exercise of the medical art, one that it is the most merciful way of treating a doomed fellow-creature, the other, that it prevents the appearance of rival practitioners at the bedside. However, in a great many instances, the effort of a physician to keep his patient ignorant of a bad prognosis is a kindly but transparent attempt at humbug, and does not succeed, unless, indeed, the patient be that truest of optimists, a case of pulmonary consumption.

To Remove From the Skin Brown Stains of Permanganate of Potassium.—The brown stains on the skin caused by solutions of permanganate of potassium are promptly removed on bathing the parts with peroxide of hydrogen, H_2O_2. The latter preparation, which is a good antiseptic, does not injure the epidermis like a solution of oxalic acid. Unlike the bisulphites it is odorless.

Cough of Nasal Origin.—Cough of nasal origin according to Dr. Lermoyez, Société Médicale des Hopiteaux, June 7, 1907) is: (1) dry, (2) convulsive, (3) progressive, (4) irresistible. Patients with this kind of cough experience a slight tickling in the larynx but none in the nose. Examination with the rhinoscope

sometimes reveals floating polypi, which constantly titillate the pituitary membrane; at other times a mucous membrane, normal in all respects except that it contains cough-producing areas, revealing their presence by: (1) production of cough on irritating these areas; (2) suppression of cough by cocainization of these areas. The diagnosis of the nasal origin of a chronic cough considerably lessens the gravity of the prognosis. If misunderstood, it may continue indefinitely; if recognized it yields almost always to local treatment, in some cases disappearing with surprising rapidity. Dr. Lermoyez holds that cough of nasal origin is far from being uncommon; it often goes by the name of nervous cough, which indicates an error in diagnosis, and leads to insufficient treatment. He thinks that students of medicine should, in addition to the study of thoracic auscultation, make themselves practically conversant with the technic of the exploration of the rhino-larynx. This recommendation is quite true; but what would then be the fate of our medical confreres who devote their energies to the exclusive therapy of diseases of the nose and throat?

To Remove From the Skin Black Stains Caused by the Nitrate of Silver.—Black stains on the skin caused by the Nitrate of silver, in stick or solution, may be whitened, and their removal much expedited, by the application of a solution made according to the following formula:

℞ Bichloride of Mercury ..... } aa gr. x
Chloride of Ammonium..... }
Water..... ℥ ʒiss

M. Sig. Apply to stains on skin with friction.

Contagiousness of Consumption.—In the *British Medical Journal,* June 15, 1907, p. 1451, an account is given of the ravages of consumption in the family of a Highland crofter. The family, consisting of the father, mother, five daughters and seven sons, until the spring of 1906 had been healthy. In April, 1906, the eldest girl, aged 21, who had been in service, came home suffering from a suppurating finger. Symptoms of phthisis appeared, and she died of tuberculous meningitis on May 26th, 1906. Since then the father, mother, four sisters and a brother have been attacked, with four deaths out of seven cases. According to recent information the mother has died of tuberculous peritonitis in Glasgow. The family is in danger of extermination. The crofter's house consisted of two apartments, with stone walls, thatched roof,

clay floors, and was very damp. The people were very clean and tidy, and kept their house in an excellent condition.

To Test the Quality of the Air.—In an article devoted to the advantages of pure air (*La Presse Médicalé,* June 8, 1907), Dr. Laignel-Levastine gives two rules for testing the purity of the air of a place. He advises the use of white paper, containing iodine and starch, which gives a blue reaction to ozone, and also a bottle of Nessler's solution. Pour a few drops of the Nessler solution into a saucer and expose the fluid to the air. Likewise expose a strip of ozone paper. If, as the wind blows over it, the paper becomes blue, thus indicating the formation of iodide of starch, while the other reagent, Nessler's solution, remains clear and unchanged, you may feel sure that the air of the place is pure—it contains ozone and does not contain reducing salts. If, when the wind blows from another quarter, you get the same results, you may be sure that the air of that place is quite pure. If, on the contrary, the Nessler's solution darkens, and shows black spots of metallic mercury, while the ozone paper remains white, change your abode, for the air of the place has reducing properties and, chemically, is no better than city air.

Arbovin in Gonorrhea.— P. W. Frank *(Berl. Klin. Woch.,* July 30th, 1906) after making experiments to test the bactericidal effects of urine charged with arbovin on gonococci, found that arbovin urine inhibits the growth of gonococci, but normal urine does the same. He therefore comes to the conclusion that the use of arbovin does not render local treatment unnecessary in gonorrhea. Arbovin allays irritation, relieves pain, does not disturb digestion, is quite harmless, and, in Frank's opinion, can be recommended as an auxiliary means of treatment in inflammatory and especially gonorrheal affections of the urinary passages. Arbovin is not a balsam; it is an addition product of diphenylamin and esterified thymil-benzoic acid. It is an aromatically-smelling fluid, having a specific gravity of 1,055, and a mild, burning taste. Frank, in his experiments, used arbovin capsules (six to eight a day, each containing 0.25 gramme).

Treatment of Intestinal Hemorrhage in New-Born Children.—A freshly-prepared 1-1000 solution of adrenalin has been used successfully in arresting intestinal hemorrhage in new-born infants. It was used hypodermically in doses of from five to six

drops. Three cases were reported by Drs. Champetier and Daversin at a meeting of La Société D'Obstetrique de Gynecologie et de Pédiatrie, 15 Avril, 1907. The authors were positive that this treatment should be superadded to the usual treatment: cold drinks, lemonade, artificial serum and weaning. A diagnosis of syphilis could not be made in any of the three cases. Dr. Champetier said that some cases of intestinal hemorrhage in new-born infants happen about the third day, at the time when the digestion of the mother's milk begins, when the protective plug of meconium is removed. The influence of digestion in the etiology of this intestinal hemorrhage appears to him of the first importance. In discussing the paper, Dr. Wallich said that he doubted that the good results claimed by Dr. Champetier from the hypodermic use of adrenalin were really due to that agent. Systematic avoidance of any kind of active treatment in cases of this kind had yielded results superior to any obtained from the employment of medicines called hemostatics.

Sulphate of Magnesium in a New Role.—Our trusty friend, sulphate of magnesium, is about to appear in a new role, if we are to credit the clinical results obtained by Dr. Henry Tucker, Genito-Urinary Surgeon, Philadelphia General Hospital, who contributes an article on "The Local Use of Magnesium Sulphate Solution in Inflammation," to Merck's *Archives,* June, 1907. The application consists of a saturated solution of magnesium sulphate in water, 1 to 1½, which is applied on from 15 to 20 thicknesses of ordinary gauze. These are saturated with the solution at least every half hour, or as often as necessary to prevent drying, depending on the time of the year and the temperature of the room. The gauze is not removed until the end of twenty-four hours; the parts are then washed with water, and the dressing reapplied if indicated. There is then found to be a marked blanching of the surface which is, however, not followed by any deleterious effects. Dr. Tucker claims to have obtained remarkable results in the relief of pain and the abatement of inflammation from the use of this solution. Sixteen cases of gonorrheal epididymitis were relieved; three cases of gonorrheal rheumatism were treated with good local results. In two cases of facial erysipelas one responded in forty-eight hours, the other in three days. In both the local pain was relieved in a few hours. The solution was also employed with

benefit in alcoholic neuritis, traumatic neuritis, sprained ankle, and simple contusion. Partial loss of sensation, accompanied by tingling of the hands and arms, which persisted from twelve to twenty-four hours, was obesrved by the attendants, who made the applications of this solution. In the treatment of inflamed testicle, elevation was not used, other than to prevent wetting of the bedclothes. Some cases were kept in bed, others were allowed the freedom of the ward. In many cases no internal medicine was given.

J. J. C.

PERSONALS.

Dr. H. J. Hamilton is building a new house on Bloor Street West, and expects to move in shortly.

Dr. and Mrs. W. H. B. Aikins returned from England last month, after spending three months abroad.

Dr. Don Armour, of Toronto, has been appointed Lecturer on Surgery at the Royal College of Surgeons, London.

Dr. D. J. Gibb Wishart, of Grosvenor Street, has recovered from his recent illness, and is now recuperating in Muskoka.

Dr. Allen Baines and Mrs. Baines, accompanied by Dr. and Mrs. J. A. Temple, left for the Old Country last month, and expect to be gone six weeks.

We are pleased to announce that Dr. Alex. Primrose is now almost convalescent from his recent illness and hopes to be up and around almost at once.

Dr. Arthur Hitchens, Director of the Antitoxin and Vaccine Laboratories of the H. K. Mulford Company, is in London engaged with Prof. E. A. Wright in the study of opsonins and vaccine therapy.

Dr. and Mrs. F. N. G. Starr left for England on the 10th of July. Dr. Starr hopes to attend the meeting of the British Medical Association. After Dr. Starr returns from England, about September 1st, he will confine his practice to surgery and consultations in surgery.

Drs. Harry James and J. S. Pritchard have been added to the medical staff of the National Sanitarium Association. The former will be assistant at the Muskoka Cottage Sanatorium, and the latter at the Muskoka Free Hospital for Consumptives. The resident medical staff of the Muskoka institutions now consists of C. D. Parfitt, M.D., W. B. Kendall, M.D., J. K. M. Gordon, M.D., and Drs. James and Pritchard.

Obituary

DR. J. W. LESSLIE DIES SUDDENLY.

Dr. Joseph Walter Lesslie died suddenly on July 17th at his home, 1 St. Patrick Street, corner of McCaul Street. The cause of death was paralysis following cerebral hemorrhage.

Dr. Lesslie, who was in his fifty-fourth year, had lived practically all his life in the city. His father was the late Joseph Lesslie, who was for many years Postmaster of Toronto.

During the North-West Rebellion, in 1885, Dr. Lesslie was surgeon of the Queen's Own Rifles, and served a long time with that regiment. He was an active member of the Royal Canadian Yacht Club and of the Toronto Club, and was generally known about town. He was connected with the Western Hospital and with the Free Dispensary on Simcoe Street.

He is survived by his wife, who is a daughter of the late W. W. Baldwin, of Toronto, also by two sisters, Mrs. T. D. Bell, of Montreal, and Mrs. Andrew Bell, of Toronto.

Death of Mrs. Orr.—The sympathy of the profession is extended to Dr. J. O. Orr, of Jarvis Street, on his great bereavement last month. His loss in the death of Mrs. Orr was cruelly sudden and therefore all the more difficult to bear, and his brother practitioners feel keenly for him.

King's Physician Dies in England.—Sir William Henry Broadbent, Physician-in-Ordinary to King Edward and the Prince of Wales, and who for a long time attended the late Queen Victoria and others of the Royal Family, died on July 10. He was born in 1835. Sir William was in Toronto just a year ago attending the meeting here of the British Medical Association. During his visit he received from Toronto University the degree of LL.D., and replied on behalf of himself and other members of the profession similarly honored at the same time. He was also honored with a degree from McGill University.

News of the Month.

CAUSES OF DEGENERACY

At the annual meeting of the New Brunswick Medical Society, St. John, N.B., Dr. A. B. Atherton, of Fredericton, President of the Society, read a paper of interest to the medical fraternity and the public at large. He said, in part:

"An inquiry into causes of degeneracy, which seems to be taking place among the more highly civilized branches of the human race, should be both interesting and profitable at this stage. I think it is too obvious for dispute that the civilized nations are undergoing some deterioration in their general physique, and, as well, perhaps, in their mental powers. The deterioration causes are those arising from our manner of life and those which are the result of bad breeding. In other words, we might say, we have the acquired and the hereditary influences which tend to degeneration. The frequency with which we medical men find cases of break-down of children of a nervous temperament or delicate constitution, due to hard study, shows the care with which the child should be watched, the girls in particular. Indeed, we have for some time been of the opinion that the public schools should be closed to girls for one or even two years, at the critical age, when an important physiological change is taking place in their constitution, on account of which they should not be placed in competition with boys of the same age. The proportion of defective eyes at the present time of school entrance is only 5 per cent., but by the time of college entrance it reaches 50 per cent. To the great evils of the abuse of stimulants and sexual immorality it seems impossible to put an entire stop. We must rather strive to regulate than to check them completely. In the matter of the better breeding of the race, we should at least take as much care as with the stock on our farms. Every child has the right to be born healthy and fit to fight the battle of life. We think the community has a right to demand that the diseased and defective ones should not transmit these characteristics to the rising generation. Marriage between such people should be discouraged or prevented. Have we not a right to demand that those who have been rescued from tuberculosis should not be the means of bringing children into the world who inherit a tendency to the same disease? Persons who have been relieved of tubercular

tendencies should submit to being sterilized. Again, the marriage of near relatives is a source of danger to their progeny, who are apt to be born idiotic, weak-minded or chronic epileptics. I think it would be wise to prohibit such unions as those of first cousins. There are said to be over one thousand two hundred feeble-minded unmarried women in the Dominion. The danger of these women producing children affected in the same manner is great. These menaces should be segregated into public institutions, or, better, perhaps, should be sterilized. It is monstrous to allow these unfortunates to hand down their mental defects to the coming generation. The chronic criminal might also be very well subjected to similar procedure."

CANADIAN MEDICAL ASSOCIATION—ANNUAL MEETING.

Arrangements have been completed for the annual meeting of the Canadian Medical Association in Montreal on September 11th, 12th and 13th, 1907. The authorities of McGill University have placed the University Buildings at the disposal of the Local Committee of Arrangements, and it has been decided to hold the General Meetings of the Association in Molson Hall, the Medical Section in the lecture room of the Redpath Museum, and the Surgical and Pathological Sections in the lecture rooms of the Arts Building.

The President's address, for which the first evening, September 11th, is reserved, will be delivered in the large hall of the Students' Union, and will be followed by a reception to the visiting members of the Association and their friends. The Students' Union is situated on Sherbrooke Street, opposite the University grounds, and is admirably suited for such a function. On the evening of September 12th there will be a smoking concert in the Victoria Rifles Armoury. A garden party, golf match, and drives to fill in the afternoons after the business of the sections has been concluded, have also been planned.

The staffs of the various city hospitals have arranged to give clinics in the hospital theatres each morning at 8.30, at which members will have an opportunity of seeing rare and interesting cases in the service of the hospitals.

The Standard Convention Certificate plan will prevail for this meeting, and all delegates when purchasing first-class single transportation to Montreal for themselves, their wives or daughters (no others), must get from the ticket agent at the same time a Standard Convention Certificate, which, when vised at Montreal, will entitle holders to return free if three hundred are present holding these; one-third if fifty or over. Every one should, therefore, en-

deavor to make one of these three hundred, so as to provide for free return transportation.

British Columbia points.—The Canadian Pacific Railway will apply rate of single fare on certificate plan to Montreal and return, tickets to be sold and certificates issued on Sept. 1 and 2, and validated certificates honored for tickets for the return journey up to and including October 9th. Tickets good for continuous passage only in each direction.

Manitoba, Saskatchewan and Alberta.—On Canadian Pacific and Canadian Northern, tickets to be on sale 5th, 6th, 7th and 8th September, west of Port Arthur, and to be honored at Montreal up to and including the 11th of October. If Lake Route used in one direction, $4.25; both directions, $8.50 extra.

Ontario, east of Port Arthur, and Quebec and Maritime Provinces.—Tickets for sale on the 7th and 8th September; final purchase at Montreal, September 18th. Passengers going rail and returning R. & O. Navigation Co., or *vice versa,* rate to be one and one-half fare—Toronto or Kingston to Montreal. Tickets will also be honored via R. & O. Navigation Co. on presentation of rail excursion tickets to the ticket agent at Toronto, or to the purser on board steamer, and payment of the following arbitraries, viz., $6.65 Toronto to Montreal; $3.50 Kingston to Montreal.

The General Secretary will issue his annual circular of information to members early in August.

Between Port Arthur and Halifax, the C.P.R., G.T.R., C.N.R., Intercolonial and R. & O. Navigation Co. are included in the arrangements.

THE FORMAL OPENING OF HIGH PARK SANITARIUM.

Equipped with all the modern appliances for the relief of nervous diseases is the High Park Sanitarium at 144 Gothic Avenue, Toronto Junction, dedicated with special ceremonies on the afternoon of June 29th. Mayor Baird, of Toronto Junction, occupied the chair, and addresses were made by Dr. J. H. Kellogg, Superintendent of the Battle Creek Sanitarium; Prof. A. T. Jones, Battle Creek, Mich.; Dr. Forbes Godfrey, M.P.P., Mimico; Rev. V. H. Cowsert, Toronto; Rev. Beverley Smith, of Toronto Junction, and Dr. McCormick, the founder of the institution.

Dr. Kellogg, Superintendent of the Battle Creek Sanitarium, with which the newly-dedicated institution is affiliated, dwelt at some length regarding what has become popularly known as the Battle Creek idea. Dr. Kellogg said that disease could be largely prevented by adhering to natural conditions, which gives the curative powers of the body power to act.

After the addresses those present were shown through the institution, and the uses of the various appliances were demonstrated. The equipment is most thorough and modern, all of the most approved methods of treatment of the sick being utilized.

Special attention is given to the Battle Creek system of physiological therapeutics, which embraces hydrotherapy, electrotherapy, thermotherapy, mechanotherapy, phototherapy and dietotherapy.

The resident staff of the institution consists of Drs. W. J. and F. D. McCormick, of Batile Creek, assisted by a corps of trained nurses from Battle Creek.

Although the institution has been in operation but a short time, the managers are already compelled to arrange for the erection of a commodious addition to accommodate the new applicants for admission. Tents will be used in the meantime.

THE NEW REGISTRAR OF THE COLLEGE OF PHYSICIANS AND SURGEONS.

Dr. Jas. L. Bray, of Chatham, Ont., has been appointed as Dr. R. A. Pyne's successor as Registrar of the College of Physicians and Surgeons. Dr. Bray is not by any means a stranger to the profession, being not only well known through Western Ontario, where he has practiced most successfully for many years, but has served several terms as member of the Council, and is therefore well acquainted with the general business of that body. We welcome Dr. Bray to Toronto, and feel that he will be not only an acquisition to the profession in our city, but carry out his new duties as Registrar of the College in an eminently satisfactory manner. Dr. Bray graduated at Queen's in 1863, and received not long ago his LL.D. in recognition of his long services to the profession.

THE COMING SESSION AT McGILL.

From inquiries received from intending students there seems to be some danger of the idea getting abroad that McGill University has been so badly crippled by the recent fires that teaching in some of the departments is likely to be discontinued for a time. Nothing could be further from the truth. Both in the Medical and Applied Science Faculties arrangements are in progress for overtaking completely the usual programme of teaching without any curtailment of work in any department. The rear part of the Medical Building which survived the recent fire lends itself admirably to the needs of the first two years of the curriculum, and it is being

rapidly adapted for the purposes of this teaching. In addition to the large lecture room, with a capacity of seating 400, this building will continue to provide accommodation in the departments of Medical Chemistry, Pharmacology, Hygiene, and Physiology. The Pathological and Bacteriological class-room is being transformed into a dissecting room, which will be as large as the old room destroyed by the fire. The Medical Faculty is fortunate in being able to supplement this accommodation by the laboratories both at the Montreal General Hospital and the Royal Victoria Hospital. It will be seen from this statement that the work of teaching can be carried on without difficulty during the period in which the new school will be under construction.

THE ACADEMY OF MEDICINE, TORONTO.

The following are the officers recently elected:

President, Dr. J. F. W. Ross; Vice-President, Dr. Alex. McPhedran; Secretary, Dr. H. J. Hamilton; Treasurer, Dr. D. J. Gibb Wishart.

Members of Council: Mr. I. H. Cameron, Dr. J. T. Fotheringham, Dr. Herbert Bruce, Dr. F. N. G. Starr, Dr. E. E. King, Dr. R. A. Reeve, Dr. W. P. Caven, Dr. H. B. Anderson, Dr. John Amyot, Dr. A. A. Macdonald, Dr. R. J. Dwyer, and Dr. R. D. Rudolf.

Section on Surgery: Dr. N. A. Powell, Chairman; Dr. Shuttleworth, Editor; Dr. H. A. Beatty, Secretary.

Section on Medicine: Dr. W. J. Wilson, Chairman; Dr. John Ferguson, Editor; Dr. Harley Smith, Secretary.

Section on Pathology: Dr. W. Goldie, Chairman; Dr. Stanley Ryerson, Secretary; Dr. Hutchison, Editor.

ISOLATION HOSPITAL FOR LONDON.

Approval of the site of the new isolation hospital at London was given by the Provincial Board of Health at a recent special meeting. The site to be expropriated by the city is virtually an extension of the present Victoria Hospital site. Special legislation was required from the Legislature to permit the erection of the isolation hospital at a less distance than 150 yards from other buildings, and the Board, in accordance with this, granted approval on condition that Waterloo Street, which is 132 feet wide, would be divided, the half next to the hospital to be fenced off.

The plans for the hospital show accommodation for 120

patients, with ample private wards. The administration building is flanked with two wards, one for diphtheria and one for scarlet fever. Separate entrances will be provided. The wards will be two-storey buildings, one flat for males and one for females. The administration building will have three storeys and an attic. The kitchen will be situated on the third story, and every modern convenience will be adopted in the equipment of the entire hospital The total cost of site, buildings and equipment is estimated at about $50,000.

It is intended to place the hygienic building on a portion of the new site, facing Ottaway Avenue.

ITEMS OF INTEREST.

A Splendid Chance for a Young Doctor.—By applying to Box 10, Canadian Journal of Medicine and Surgery, at once, a young graduate in medicine will hear of an exceptional opportunity of starting in practice in a thriving Ontario town, where, after November 1st next, if a suitable man, he will be appointed physician to a large factory, and be guaranteed a minimum of $600 a year salary.

Portrait of Dr. Geikie.—A meeting of the committee of the graduates of Old Trinity Medical College was held on July 9th, to arrange to have a portrait of their old dean, Dr. W. B. Geikie, painted and hung in the Academy of Medicine. Every graduate, of which there are about 2,500 throughout the world, will be given an opportunity to contribute toward the fund. The following committee have the work in hand, viz., Drs. Temple, McMurrich, Marlow, Pepler, Richardson, Hayden, Crux and Worthington.

West Toronto Divisional Association.—On June 28th, a well attended meeting of the city profession, especially those identified with West Toronto, was held in Broadway Hall, called by Dr. J. S. Hart, the Council representative. Matters of interest to the profession were discussed, the following resolutions being passed: (1) That the fee of each member shall be $1.00; (2) that the fee for insurance examination for fraternal societies shall be $2.00; (3) that in the opinion of the Association all lodge practice should be discouraged; (4) that nurses, ministers, and members of doctors' households, not his own family, should be charged the usual fees. The consideration of a uniform tariff was left over till the autumn. Dr. J. S. Hart presided at the meeting, and Dr. F. A. Clarkson appointed Secretary-Treasurer.

The New Site for the Ontario College of Physicians and Surgeons.—The Ontario Medical Association have lost no time in carrying out the promise made at the annual meeting at Kingston a few weeks ago, when the Executive stated that a site for a new home for the Association would soon be purchased and a new building erected thereon. It is now announced that the site purchased is part of the property of Mr. R. J. Score, on University Avenue. The site is 110 by 130 feet, and the house is a fine brick building, but it is understood that the Association will erect a new building suitable in every way for the business of the Association. Mr. H. S. Mara, of Toronto Street, negotiated the purchase, and the price paid was $18,150.

The "Interstate Medical Journal" (St. Louis) announces the purchase of the *St. Louis Courier of Medicine,* one of the oldest medical journals in the West, and its consolidation with the *Interstate* on July 1st. The *St. Louis Courier of Medicine* was established in 1879 by an association of prominent St. Louis physicians. It has always commanded a large following throughout the West and South, and held the respect and esteem of the entire profession of this country. This merger removes from the field an old and highly esteemed contemporary, and its consolidation with the *Interstate* adds strength and prestige to that periodical. This is the fourth medical journal that has been purchased and absorbed by the *Interstate* during the past few years.

A Government Commission to Investigate the Care of the Insane in Europe.—The Provincial Government has appointed Hon. Dr. Willoughby, Minister without portfolio, Dr. C. K. Clarke and Dr. Edward Ryan, the medical superintendents, respectively, of Toronto and Kingston Asylums, a commission to examine into a report upon the systems followed in Germany and France in the treatment of the insane. Drs. Clarke and Ryan have already started for Europe, and Hon. Dr. Willoughby followed two weeks ago. This move is in accordance with the intention of the Government, as stated during the last session of the Legislature, to adopt a more modern system than that now prevailing in this country in respect to the treatment of mental diseases.

A Canadian for Johns Hopkins.—The recent appointment of Dr. Wilfred P. Mustard to a professorship in the Johns Hopkins University is one that is of especial interest to Canadian classical scholars. Prof. Mustard graduated at the University of Toronto, with the McCaul gold medal in classics, in 1886. For three years he was a fellow of University College, and for a like period he served as examiner in classics to this University. Passing to Johns

Hopkins, he pursued the study of Latin, Greek and Sanskrit, taking a high stand in these departments from the beginning. He won a graduate scholarship, and a fellowship, and was advanced to the degree of doctor of philosophy in the remarkably short time of two years. For the next two years he served as Professor of Latin in Colorado College, and since 1893 he has held a similar position in Haverford College, Pennsylvania. In 1902-3 he was a member of the American School of Classical Studies in Rome. He is the author of "Classical Echoes in Tennyson," and a frequent contributor to *The American Journal of Philology* and other periodicals. After eighteen years in the United States, he still remains a British subject.

The Association of American Teachers of Diseases of Children.—A meeting of professors of Pediatrics and Hospital Clinicians was held at the Marlborough-Blenheim, Atlantic City, June 3rd. Many of the best known pediatricians of this country were present. A very successful meeting was held, and a permanent organization was effected which bears the name, "The Association of American Teachers of the Diseases of Children." Professors, associate professors and lecturers in medical colleges of the U.S., Canada and Mexico are eligible. Also hospital and dispensary staff members actively engaged in treating children. The principal objects of the organization are to advance the study of children and their diseases and raise the standard of the teaching of pediatrics in medical colleges and its practice in hospitals, dispensaries and private practice. The Association elected the following officers: President, Dr. Samuel W. Kelly, Professor Diseases of Children, Cleveland College of Physicians and Surgeons, Medical Department of Ohio Wesleyan University; Vice-President, Dr. Charles Douglas, Professor Diseases of Children and Clinical Medicine, Detroit College of Medicine; Secretary, Dr. John C. Cook, Professor Diseases of Children, Post-Graduate Medical School and Hospital of Chicago; Treasurer, Dr. George H. Cattermole, Professor Diseases of Children, Colorado School of Medicine. Senators: Dr. W. C. Hollopeter, Professor Diseases of Children, Medico-Chirurgical College of Philadelphia; Dr. H. M. McClanahan, Professor Diseases of Children, University of Nebraska College of Medicine, Omaha; Dr. R. B. Gilbert, Professor Diseases of Children, Louisville University, Medical Department.

The Physician's Library.

BOOK REVIEWS.

Modern Surgery—General and Operative. By J. Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. Fifth Revised Edition, Enlarged and Reset. Octavo volume of 1283 pages, with 872 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company. 1907. Cloth, $5.50 net; half morocco, $7.00 net. Canadian Agents: J. A. Carveth & Co., Toronto, Ont.

Our old friend, DaCosta's "Modern Surgery," is to hand in its fifth edition. Although a great deal of new material has been added to it, yet we can see that there are plenty of opportunities for further additions; for instance, in the application of the plaster jacket the suspension apparatus of Syre is the only one illustrated, whereas it is seldom employed now in modern hospitals; the iron frame and the hammock seeming to have the preference. We note in the preface to the fifth edition that the article on Cleft Palate has been rewritten, and we might suggest that in future editions the article on Hare Lip might receive similar attention. It is about time that the use of large sutures, such as silk-worm gut, in a delicate structure like the lip, should be abandoned and horse-hair used in its place. It seems to us wiser that no dressing should be applied, for it acts only as a resting-place for any discharge that may take place from the nose.

Naturally the subject of Exstrophy of the Bladder receives very little attention, but we think that reference should be made to the operation devised by Peters (*British Medical Journal,* June 22nd, 1901), because of its simplicity and safety.

The article on Appendicitis is a useful one and the author does not fly off at a tangent on the subject like so many of his countrymen, but when in recounting the symptoms he says that "in appendicitis there is always some elevation of temperature," we feel we must cross swords with him, for in our experience in some of the gravest cases we have seen, there has been neither elevation of temperature nor increase of pulse rate.

The Peters' method of auscultating the abdomen might well be added as a useful aid in determining the presence of peritonitis. ("The Telephonic Properties of the Inflamed Abdo-

men." *Canadian Journal of Medicine and Surgery,* December, 1902). In the diagnosis of this condition the author calls attention to the danger of confusing the referred pain of pneumonia and of pleurisy for appendicitis, and we would suggest that he would add pericarditis.

Both the author and the publishers are to be congratulated on the production of the fifth edition of this magnificent work.

F. N. G. S.

Anesthetics and Their Administration. A Text-Book for Medical and Dental Practitioners and Students. By Frederick W. Hewitt, M.V.O., M.A., M.D. Cantab., Physician-Anesthetist to St. George's Hospital; Consulting Anesthetist and Emeritus Lecturer in Anesthetics at the London Hospital, etc. Third edition. Octavo, 627 pages, 72 illustrations. Toronto: The Macmillan Company of Canada, Limited, 27 Richmond Street West. 1907.

Owing to the number and variety of the surgical procedures done nowadays, the employment of anesthetics has greatly increased, hence the necessity of a full and accurate knowledge of anesthesia and anesthetics by all physicians. In hospitals the duties of an anesthetist may be allowed to devolve on one or several persons, who thus acquire a working knowledge of the art of employing different anesthetics. Physicians are rarely so happily circumstanced during their medical pupilage and acquire their experience in the use of anesthetics from their private practice. By both of these classes of medical men, Dr. Hewitt's book will be found apt, suggestive and instructive, because he draws on his own experience and illustrates his teachings as to the rationale of the accidents or phenomena caused by different anesthetic agents by the carefully made records of 72 cases.

In Canada, as far as we have observed, simplicity rather than complexity prevails in the choice of preliminary anesthetics, both in hospital and in private practice. Ether or chloroform is most used. Mixtures of these agents, such as the A.C.E. mixture, or C.E. mixture, are not in vogue; nitrous oxide gas or chloride of ethyl is but rarely used. Much that is given in detail in Dr. Hewitt's book would, therefore, be new to Canadian readers. The subject of anesthesia is, however, a very complex one, and the experience of the author with the different anesthetics is well described, and is of great value.

Dr. Hewitt favors the appointment of anesthetists in hospitals, a view which has been supported by Canadian medical men. The skill of the anesthetist should be equal to the demands made on it, and training in a general or special hospital is the readiest way of acquiring that skill.

Reposing, as it does, on a solid clinical basis, Dr. Hewitt's

book deserves to receive a wide and favorable recognition from physicians. The text is clear and well expressed; the illustrations are good. J. J. C.

Rational and Effective Treatment of Hip-Disease. By P. Bruce Bennie, M.A., M.D., B.S. London: Published by Bailliere, Tindall & Cox. Canadian agents: J. A. Carveth & Co., Ltd., Toronto.

Dr. Bennie in this little book follows closely the principles laid down by H. Owen Thomas, of Liverpool, a quarter of a century ago. These principles were sound and will never be antiquated, but advances have been made since the time of Thomas which receive but scant attention in this work. The book is clear and concise and will be found a useful guide to men in general practice who feel obliged to devise means for treating their cases at home.

B. E. M.

Progressive Medicine, Vol. 1, March 1907. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 280 pages, with illustrations. Per annum, in four cloth-bound volumes, $9.00; in paper binding, $6.00, carriage paid to any address. Philadelphia and New York: Lea Brothers & Co.

The March issue of *Progressive Medicine* is quite up to the usual standard of this excellent magazine. In the first section Dr. Chas. H. Frazier reviews the current literature of the surgery of the head, neck and thorax. He deals exhaustively with various forms of intracranial injuries, with which are associated edema of the brain, hemorrhage, abscess of the brain and fractures of the base of the skull. The discussion on the surgical treatment of epilepsy is extremely interesting, but the results of such treatment are not encouraging, as there appears to be no sharp and well-defined lines dividing the operable from the inoperable cases.

In the second division Dr. Robert B. Preble discusses many infectious diseases, including diphtheria, scarlet fever, measles, smallpox, typhoid fever, epidemic meningitis, and croupous pneumonia. The literature of meningitis and pneumonia is most carefully considered. Unfortunately the clinical investigations into the causation and treatment of these diseases have not accomplished much in the way of prevention and cure.

The literature on diseases of children was reviewed by Dr. Floyd M. Crandall. Two very important parts of this subject are devoted to infant feeding, and the management of infants during hot weather.

Dr. D. Brayden Kyle has provided ample reviews on various topics in rhinology and laryngology, septal deflections, treatment of hay fever, primary syphilitic infection in the nose, bacteriology of a common cold, and the use of chloride of sodium in the treatment of chronic pharyngitis are among the more important of these subjects.

The final section on Otology was written by Dr. B. Alex. Randall, and deals largely with the mastoid and the work which has been done during the last year on the labyrinth and its diseases.

The first section of the June issue, "Progressive Medicine," 1907, contains a review of the recent literature on the radical cure of femoral hernia, and includes methods of treatment by Ochsner. The operative treatment of inguinal hernia in children is also discussed. The writer does not approve of operations for hernia in infants and very young children, and thinks there is little to be lost by using a truss during the period of infancy.

In the second section Dr. Foote gives an exhaustive review of the abdomen in general, many of the topics being extremely interesting and instructive. Methods of treatment are given for diffuse suppurative peritonitis, abdominal hemorrhage, and many other conditions requiring surgical relief. The stomach occupies a prominent place in the discussion. Gastric ulcer and its diagnosis, when does gastric ulcer become surgical, the value of gastro-enterostomy, and the treatment of gastric hemorrhage, are some of the leading topics. Other subjects relate to the small intestine, the large intestine, the liver and biliary tract, the spleen, and the pancreas.

In the next section Dr. John G. Clark reviews gynecology very fully. About forty pages are devoted to cancer of the uterus, and this important subject is very thoroughly dealt with. Other topics are fibroid tumors of the uterus, enteroptosis, menstruation and gynecological operations.

Dr. Stengel reviews the literature relating to diseases of the blood, spleen, thyroid gland and lymphatic system. Among the interesting topics discussed by him are anemia, leukemia, purpura hemorrhagica, hemophilia, scurvy, diabetes and gout, exophthalmic goitre and Addison's disease.

The next section deals with ophthalmology. It contains much useful and interesting material and completes the volume, which is full of interest from beginning to end. A. E.

Precis de Medicine.—Technique Orthopedique. By P. Redard. Paris: Published by F. R. Rudeval. Canadian agents: J. A. Carveth & Co., Toronto.

This is a useful book for the surgeon who sees many cases requiring orthopedic treatment and who must rely upon a general

instrument maker for his appliances. The work is very fully illustrated, and the accompanying descriptions are such as to aid greatly in making the required instruments. An effort is made to describe only such appliances and such operative procedures as have been found effective and useful. Simplicity in design is advocated and the employment of complicated attachments is discouraged. The various operative procedures employed in orthopedic surgery have become so numerous and so varied that a separate setting forth of technique is fully justified and the book will constitute a useful one for reference. B. E. M.

Chemical Pathology. Being a Discussion of General Pathology from the Standpoint of the Chemical Processes Involved. By H. Gideon Wells, Ph.D., M.D., Assistant Professor of Pathology in the University of Chicago and in Rush Medical College, Chicago. Octavo of 549 pages. Philadelphia and London: W. B. Saunders Company. 1907. Cloth, $3.25 net.

Here the pathologist views his problems in a new light: as the fields of pathological chemistry lie almost unexplored a work along these lines must be exceptionally exhilarating. It should supply information to a variety of readers. If studied collaterally with general pathology, which is chiefly considered from a morphological standpoint, it will interest the graduate in medicine, as it exploits the advances that are being made along lines that are of importance to clinical medicine. It will serve for the investigator in biological chemistry or in pathology as a source of information concerning the ground upon which the two subjects overlap.

The subject opens with an epitome of modern views concerning the chemistry of the proteid molecule, the composition of the animal cell, and the principles of physical chemistry as they apply to biological problems. In Chapter II. we find a general consideration of "enzymes."

By a complete system of footnotes the reader is kept in touch with all the recent important literature on the topics covered.

The subject is handled in a scholarly and lucid manner. The scientific points are clearly expressed, and the work should enjoy a considerable popularity. W. H. P.

A Dictionary of Medical Diagnosis. A treatise on the signs and symptoms observed in diseased conditions, for the use of medical practitioners and students. By Henry Lawrence McKisack, M.D., M.R.C.P. London; Physician to the Royal Victoria Hospital, Belfast. London: Balliere, Tindall & Cox. 1907. Canadian agents: J. A. Carveth & Co., Ltd., Toronto.

Dr. McKisack's book may be, perhaps, most correctly styled a study of the signs and symptoms of disease. The author very

properly holds the view that, without a careful examination of the patient and the symptoms of illness from which he suffers, a correct diagnosis cannot be reached. This is, of course, nothing new, but the author's method of study and logical deduction that because the patient suffers from such and such symptoms, the diseased condition is centred in a certain organ, makes the book readable and instructive. Dr. McKisack very modestly describes his book, not a substitute for the text-book, but merely "a complement." The work is arranged alphabetically and therefore exceedingly handy for reference.

Principles and Application of Local Treatment in Diseases of the Skin. By L. Duncan Bulkley, A.M., M.D., New York. New York: Rebman Company, publishers, 1123 Broadway

This is a most useful book, as the indications for local treatment and applications used are made clear and concise.

The remarks on the high frequency currents and X-rays, though brief, give a good idea when to expect benefit from them.

The reader of this small work cannot help but receive benefit from it. D. K. S.

American Practice of Surgery. A Complete System of the Science and Art of Surgery, by Representative Surgeons of the United States and Canada. Editors: Jos. D. Bryant, M.D., LL.D., and Albert H. Buck, M.D., of New York City. Complete in eight volumes. Profusely illustrated. Volume III. New York: Wm. Wood & Company. 1907.

The good opinion already expressed by this Journal as to Vols. I. and II. of "American Practice of Surgery" is certainly justified after glancing over Vol. III., just to hand a month or so ago. In fact, Vol. III. is the best issued so far. We are much pleased to find a contribution from the pen of our collaborateur, Professor Alexander Primrose. The volume also includes a lengthy article from the late Professor George A. Peters, whose reputation as a surgeon and whose originality in operating will live for many years to come. Prof. Primrose contributes a most scientific article on "Tuberculous Disease of the Bones and Joints," covering in all 164 pages. The article is profusely illustrated with half-tones of original photographs, and undoubtedly is one of the most valuable papers on the subject contributed for many years past. We have not seen as fine an illustration anywhere as Fig. 247, showing a "frozen section through the body of a child one year old." The section of Vol. III. from the pen of the late Professor Geo. A. Peters, of Toronto, deals with "Inflammatory Affections of Bone," and covers in all sixty-eight pages. It, too, is splendidly illustrated, and is written in our late friend's usual bright and suc-

cinct style, making a chapter that not only elucidates his subject extremely well, but gives the profession the benefit of all original matter.

Other contributors to Vol. III. are Duncan Eve, of Nashville, Tenn.; J. S. Horsley, of Richmond, Va.; C. F. Mason, of Washington; J. C. Oliver, of Cincinnati; C. F. Painter, of Boston; Roswell Park, of Buffalo; G. G. Rambaud, of New York; C. C. Simmons, of Boston, and T. T. Thomas, of Philadelphia. Over and above the subjects dealt with by Professors Primrose and Peters, the other authors named contribute papers on poisoned wounds, rabies, fractures, pseudarthrosis, non-inflammatory affections of bones, syphilitic disease of bones, tumors originating in bone, chronic non-tuberculous and non-traumatic inflammations of joints and wounds of joints. W. A. Y.

Aids to Medical Diagnosis. By Arthur Whiting, Physician to the Tottenham Hospital. London: Wm. Wood & Co. Price, $1.00.

This little book is a handy size for the coat pocket, and would prove a useful and instructive companion. It does not discuss technical laboratory methods, but it purely a bedside book.

E. A. M.

Post-Operative Treatment. An epitome of the general management of post-operative care and treatment of surgical cases as practised by prominent American and European surgeons, together with suggestions concerning the technic of certain operations with a view to securing better post-operative results. By Nathan Clark Morse, A.B., M.D., Surgeon-in-Chief to Emergency Hospital, Eldora, Iowa; District Surgeon, Chicago & Northwestern and Iowa Central Railways; ex-President Iowa State Association of R.R. Surgeons; Member of the American Medical Association, Pan-American Medical Congress, International Association of R.R. Surgeons, etc. Second edition, revised and enlarged, containing 5 plates and 175 other illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1907.

This work proves that first impressions are not always correct, for, on looking through it, one was prone to think at the beginning that it was merely a re-hash of a lot of material already published, but on further examination it proves to be a most useful book in that the compilation has been very carefully made, and the ideas of a great many different men are given in a very concise form. Of course we cannot always agree with everything that is written, but then the author is not responsible, as he is merely quoting others.

With reference to cleft palate, there has been a good deal of

new material published of late, and it would be well to re-write this chapter in a future edition.

Then, as to after treatment of hare lip, no one who has had any considerable experience with these cases would think of applying a dressing where it may so readily become soiled and infect the wound, and nowadays people who are working at that sort of thing and getting success do not use silkworm as a suture.

The illustrations are excellent and the book-making is good, for which the publishers are to be congratulated. F. N. G. S.

Aids to Diseases of Children. By John McCaw, Physician to Belfast Hospital for Sick Children. Third edition. New York: Wm. Wood & Co., publishers. Price, $1.25.

Though small in size this admirable book contains an enormous amount of valuable material. It is not a quiz compends, nor an exhaustive treatise, but is a well written and concise account of the differential diagnosis, course and treatment of all the ills of childhood. E. A. M.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U.S.A., with the collaboration of Wm. Osler, M.D., Oxford; John H. Musser, M.D., Philadelphia; Jas. Stewart, M.D., Montreal; J. B. Murphy, Chicago, A. McPhedran, M.D., Toronto; Thos. M. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; Jas. G. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; John Harold, M.D., London; Edmund Landolt, M.D., Paris; Richard Kretz, M.D., Vienna, with regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume II., Seventeenth Series, 1907. Philadelphia and London: J. B. Lippincott Co. 1907.

The list of contributors to Vol. II. of this series of clinics includes a number of important names. Among them we find such names as John Madison Taylor, of Philadelphia; Thos. M. Rotch, of Harvard; Francis H. A. Marshall, of Edinburgh; Cuthbert Lockyer, of the Samaritan Free Hospital for Women; Smith Ely Jelliffe, of Columbia University; W. E. Carnegie Dickson, of the University of Edinburgh; Joseph De Lee, of Chicago, and T. D. Crothers, of Hartford, Conn.

A lecture that attracted our attention as being quite worthy of

careful reading is that covering fourteen pages, and written by J. Madison Taylor, of Philadelphia, entitled, "Management of Exhaustion States in Men." It is instructive and practical, though some might criticise it as being more suitable for the report of a Y.M.C.A. than a medical book. Dr. Jos. B. DeLee writes an excellent article on "Post-Partum Hemorrhage and Its Treatment." It is as well written as anything we have recently read on the subject.

The lecture by our friend, Dr. T. D. Crothers, of Hartford, on "The Clinical Study of Inebriety," shows that the author is liberal minded and an enthusiast in his particular specialty.

Practical Gynecology. A Comprehensive Text-Book, for Students and Physicians. By E. E. Montgomery, M.D., LL.D., Professor of Gynecology, Jefferson Medical College; Gynecologist to the Jefferson Medical College and St. Joseph's Hospitals; Consulting Gynecologist to the Philadelphia Lying-in Charity, and the Kensington Hospital for Women. Third revised edition. With five hundred and seventy-four illustrations, the greater number of which have been engraved specially for this work, for the most part from original sources. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1907.

It is but four years since the last or second edition of Dr. Montgomery's book appeared, so that it speaks well for the quality of his writings that a complete revision should be in demand in so short a time. Not only has the book been carefully revised, but it is larger by well on to one hundred pages than was its predecessor. The author has added chapters on etiology and blood examinations. We must take this opportunity of congratulating Dr. Montgomery on the excellence of many of the illustrations which elucidate the text and add to the value of the book very materially.

The Care of the Baby. By J. P. Crozer Griffith, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Fourth Revised Edition. 12mo of 455 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1907. Cloth, $1.50 net. Canadian Agents: J. A. Carveth, Limited, Toronto.

It is quite flattering to any author that the various editions of his book should so soon become exhausted; but such has been the case with Dr. Griffith's "Care of the Baby." That, perhaps, is the best way of judging as to the value of any man's writings—public, or as in this instance, medical opinion.

The fourth edition has been carefully gone over by the author and corrections made, as necessitated by the advancement of

knowledge. Dr. Griffith has for years made a special study of infant feeding, so that, in a second appendix to his book, he has gone fully into this subject, and dealt at length with the principles that should always govern medical men in the selection made of an infant's diet in illness and in health.

On the Relations of Diseases of the Skin to Internal Disorders. By L. Duncan Bulkley, A.M., M.D., New York. New York: Rebman Company, 1123 Broadway.

Dr. Bulkley discusses this important subject in a most practical manner and shows the relationship of many diseases of the skin to internal disorders, so that there can be no doubt of the connection. This work still increases the evidence that diseases of the skin are not entirely local, but in many cases associated with internal disorders. D. K. S.

The Medical Era's Special Editions.—The *Medical Era* of St. Louis, Missouri, will conform to its usual custom and issue its yearly series of special gastro-intestinal numbers embracing July and August. The August issue will be given over entirely to the consideration of every phase of typhoid fever. The series will contain about 35 or 40 practical papers, and will contain a large amount of valuable information.

Physical Diagnosis. With Case Examples of the Inductive Method. By Howard S. Anders, A.M., M.D., Professor of Physical Diagnosis, Medico-Chirurgical College, Philadelphia; Physician to the Philadelphia General Hospital, Tuberculous Department; late President of the Pennsylvania Society for the Prevention of Tuberculosis; member American Medical Association, American Climatological Association, American Association for the Advancement of Science, etc. With eighty-eight illustrations in the text and thirty-two plates. New York and London: D. Appleton and Company. 1907.

In the 425 pages the author presents the most important facts in connection with physical diagnosis. This is generally a difficult and dry subject, but in this book it is made both attractive and interesting.

The style is very pleasing and plain, and students and practitioners will find much to admire by a careful reading. Modern ideals, modern standards, and the rapidly advancing requirements of modern training are well met by this little book.

The illustrations show well the objects aimed at, and are of unusual value.

Part I. takes up more than half of the book, and treats of the organs of the chest. It is the most valuable part of the work, and is well worth the price asked for the whole volume.

Part II. takes up the organs of the abdomen, and while containing only fifty pages, yet is packed full of just the material required.

Part III. well illustrates the uses of the Roentgen ray in medical diagnosis.

Part IV.—These plates go far to make a fine finish, and are a very great addition. They are very useful and of much value to illustrate the subject matter of this valuable little book.

It deserves much praise, and should be in the hands of every student and general practitioner. P. G. G.

Annals of Surgery.—The annual special illustrated number of the *Annals of Surgery* came recently to hand, and, as is usual with this special number, it is a credit to the editor and the publishers. The present number contains articles by J. Collins Warren, M.D., William J. Mayo, M.D., John C. Munro, M.D., Robt. C. Coffey, M.D., George Chandler, M.D., Leon K. Baldauf, M.D., Max W. Myer, M.D., Clarence A. McWilliams, M.D., John A. Bodine, M.D., Andrew J. McCosh, M.D., Nathan Jacobson, M.D., Alfred T. Osgood, M.D., Edward J. Keyes, Jr., M.D., William W. Keen, M.D., and Charles H. Frazier, M.D. The article by William J. Mayo is especially interesting, and is the one read at the Congress of American Physicians and Surgeons at Washington on "Gastric and and Duodenal Ulcer." The illustration of Dr. Coffey's article on the "Closure of Persistent Fecal Fistulæ" is a most artistic production. We congratulate the management of the *Annals of Surgery* on their recent achievement. F. N. G. S.

A Text-Book of Embryology. By John C. Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College of Philadelphia. Third revised edition. Octavo volume of 432 pages, with 212 illustrations, 32 of them in colors. Philadelphia and London: W. B. Saunders Company. 1907. Cloth, $3.00 net; half morocco, $4.25 net. Canadian agents: J. A. Carveth & Co., Toronto, Ont.

The recent great activity along the lines of embryological research has hastened the advent of the third revision of this book, so that it should keep pace with the many new facts and modified views. The editor has endeavored, as far as possible, to harmonize with the results of these investigators.

The sections on ovum, spermatozoon, the blastodermic vesicle, the amnion, the vascular system, the pancreas, the spleen, thymus, thyroid, parathyroid, spinal cord and vertebral column, have especially fallen under the pen of revision.

The original aim in presenting this book was to supply to the student of human anatomy a concise yet sufficiently full text-book

on embryology. It is needless to say that the author, who is a man of extensive experience as a teacher of anatomy, has "hit the bull's-eye," as the previous editions have met a ready sale and filled a long-felt want.

This fascinating subject is here presented as a connected story of human development; at the same time each chapter is as complete in itself as possible.

The illustrations have been selected with the utmost care, employing only those of the greatest teaching value. The publisher's work is most creditable. W. H. P.

Surgical Diagnosis. By Daniel N. Eisendrath, M.D., Adjunct Professor of Surgery in the Medical Department of the University of Illinois (College of Physicians and Surgeons). Octavo of 775 pages, with 482 original illustration, 15 in colors. Philadelphia and London: W. B. Saunders Company. 1907. Cloth, $6.50 net; half morocco, $8.00 net. Canadian Agents: J. A. Carveth Co., Toronto.

Upon a correct diagnosis of a case, whether medical or surgical, depends, of course, the success or otherwise of the treatment adopted. Any book, therefore, that will materially assist along this line is welcome.

Dr. Eisendrath's book should be a good "seller," as it is full of practical material. He has so arranged his subjects and has tried "to group injuries and diseases in the manner in which the surgeon or general practitioner must consider them when he examines a patient for the purpose of making a diagnosis." The author has also borne in mind throughout the differentiation of diseases that in symptomatology are very much alike, so that each chapter is helpful and in every sense an aid to diagnosis. Dr. Eisendrath impresses, too, upon his reader the great importance of an early diagnosis, in order to institute prompt surgical intervention. A good deal of attention is also devoted to the description of the methods of examination. W. A. Y.

Medical Jurisprudence, Forensic Medicine and Toxicology. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics and Toxicology in Cornell University, and Tracy C. Becker, A.B., LL.B., Counsellor at Law, Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo; with the collaboration of August Becker, Esq., A. L. Becker, Esq., Chas. A. Boston, Esq., Hon. Goodwin Brown, W. N. Ballard, M.D., J. C. Cameron, M.D., J. Clifton Edgar, M.D., Jas. Ewing, M.D., E. D. Fisher, M.D., J. C. Johnson, M.D., D. S. Lamb, M.D., H. P. Loomis, M.D., W. B. Outten, M.D., Roswell Park, M.D., J. Parmenter, M.D., Irving C. Rosse, M.D., E. V. Stoddard, M.D., George

Woolsey, M.D., J. H. Woodward, M.D. Second edition. Volume two. New York: William Wood & Co. 1907.

Witthaus and Becker's work on Medical Jurisprudence and Toxicology is now looked upon as one of the first authorities on this subject. The second edition is, in many ways, better than its predecessor, the editors have gone over their original manuscripts and brought each subject up to date.

Volume two covers nearly one thousand pages, dealing with (1) The Medico-Legal Consideration of Wounds, including punctured and incised wounds, and wounds made by blunt instruments other than gunshot wounds; (2) The Medico-Legal Relations of Electricity; (3) Death from Submersion in its Medico-Legal Relations; (4) Abortion and Infanticide; (5) Pregnancy, Labor and the Puerperal State; (6) The Medico-Legal Consideration of Rape; (7) Sexual Incapacity in Its Medico-Legal Relations; (8) Railway Injuries, then Clinical and Medico-Legal Features.

Volume two is full of the most interesting matter, so that not only is Witthaus and Becker a work of interest to the ordinary practitioner, but it is almost the *sine qua non* to the Medical jurist. We can honestly and consistently recommend the work as being worth many times its actual commercial cost.

Atlas and Epitome of Diseases of Children. By Dr. R. Hecker and Dr. J. Trumpp, of Munich. Edited, with additions, by Isaac A. Abt, M.D, Assistant Professor of the Diseases of Children in Rush Medical College, in affiliation with the University of Chicago. With 48 colored plates, 147 black and white illustrations, and 453 pages of text. Philadelphia and London: W. B. Saunders Company. 1907. Cloth, $5 net. Canadian Agents: J. A. Carveth, Limited, Toronto.

It was with a good deal of pleasure that some years ago we reviewed quite a number of Saunders' Medical Hand Atlases, and we felt at that time that they were a distinct addition to medical literature.

The atlas, now under review, is an illustrated manual of pediatrics; a great deal of material, not only compressed into very small space, but illustrated in a manner true to life, and adding immensely to the value of the text. The plates are "life-like" in the extreme and delicate in coloring. The editor, in translating from the German, found it essential to make some changes in certain sections, so that they might accord with the practice in this country. An atlas, such as this, is an important aid to both student and practitioner, especially in those cities where "pediatric education" cannot be provided, owing to a deficiency of clinical material. W. A. Y.

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Original Contributions.

PHYSICAL TRAINING AS A THERAPEUTIC AGENT.*

BY B. E. McKENZIE, B.A., M.D., TORONTO.

PERMIT me to express my appreciation of the compliment implied in being asked to present a paper to this association of experts, teachers, and leaders in every department of physical education. It falls to my lot, naturally, to consider this subject in the light of its fitness to aid us in developing the defective or imperfect organization, in our effort to regain, in whole or in part, muscular power and efficiency lost through disease, in correcting abnormal functions of the body, in breaking up habits which tend to lessen the efficiency of action, in correcting deformity in any part, the existence of which is detrimental to beauty and symmetry, or which interferes with mechanical efficiency, and in assisting to improve and regulate will power so that it may be economically and wisely directed and applied. I shall deal more especially with those phases of the work seen in my own practice.

The law which declares action within physiological limits as a chief factor to aid development is well established and receives confirmation on every hand. The babe throws his arms about and springs up while standing upon his mother's lap and tosses his body to and fro in a seemingly purposeless manner; but, the while, is obeying Mother Nature's behests, and is practising, not only that size and power of muscle may increase, but that he may learn the art of intelligently balancing himself and of directing

*Read at the meeting of the American Association for the Advancement of Physical Education, at Springfield, Mass., Dec., 1906.

FIGURE I.

Mode of progression adopted by a boy having paralysis from anterior poleocystitis

his muscles to the accomplishment of purposeful actions. The youth who purposes to enter contests demanding great and prolonged effort is examined to ascertain whether he is "fit." If it be found that after moderate exertion his pulse goes above one hundred, or if in other ways he betrays a lack of well-rounded physical competency, he is sent back to practise where he may

do so in moderation, but with ever increasing force and effort in order that all the elements which go to make up an effective physical unit may be brought to their highest efficiency. To accomplish the desired result it is necessary, not only to obey the part of the law which demands action, but also that part which says *action within physiological limits.* It may be difficult to determine at all times the exact physiological limits, but there certainly is such a limit, and to pass that line is to produce "strain," and to interfere with and delay the end sought, and to lower permanently the element of possible achievement for that individual.

Efficiency may be lost or lowered through disease. What can be done towards restoring wholly or in part to normal power? Perhaps no better illustration presents itself here than that afforded by the disability which so frequently results from infantile spinal paralysis. This affection is a paralysis of motor power, disables the lower extremities most frequently, results from inflammation of the large motor cells in the anterior columns of the spinal cord, manifests itself irregularly in the various groups of muscles, seldom causes complete motor disability of any extremity, and shows a natural tendency towards recovery, continuing for some years, but never becoming complete.

The motor cells of the cord are seldom entirely destroyed. Some cells, doubtless, which preside over the action and nutrition of their nerve fibres lose all power; some are injured to such an extent that the nerve fibres passing from them to muscle convey their messages but imperfectly; and others are probably capable of restoration to a condition nearly normal, while still others escape uninjured.

Occasionally all the muscles of the lower extremity are so entirely without motor control that not a movement can be made. In many other cases the loss of power is partial. For example, at the knee the power of extension is lessened or lost, while flexion may suffer little or no impairment. In this case there is a lack of balance, and the flexors acting continuously, while not opposed, or only partially opposed by extension power, produce habitual or permanent flexion at the knee—a definite deformity with constant impairment of function.

Similarly, an unequal degree of paralysis of the various muscles which control the ankle produces a lack of balance. The muscles which draw the foot inward may be stronger than those which oppose, and the foot be constantly drawn inward, permanent deformity results, and there follows a case of paralytic club-foot and great interference with function, an interference which is now not only due to loss of muscular power but also to

mechanical inefficiency, owing to the fact that the foot is no longer directly under the weight to be supported. There are thus two distinct and well-marked elements which together constitute the disability in such cases.

The mechanical element in the disability may be remedied by operative means or by the employment of braces; the muscle and nerve element, the lack of control and of power, can best be remedied by physiological means. By persistently directing the attention and effort of the individual to the performance of

FIGURE II.

certain desired actions new combinations may be formed, combinations which were not necessary when there was normal control before the intervention of disease.

In illustrating this point allow me to present the case of a young woman (Fig. 2), seventeen years of age, weighing one hundred and thirty-five pounds, who, as she lay in bed, was not able to make any movement of either lower extremity because of an attack of infantile spinal paralysis two years previously. Physical training commenced with this patient September 1st

last, and at the end of three months she was able to walk unaided except by her braces and crutches. In order to afford her an opportunity to place one foot before the other, as in walking, her weight was suspended by straps under the chin and occiput, attached by a rope to a car running on a trolley line about five feet above her head. In this way her entire weight could be sustained, allowing only sufficient downward pressure to enable her to feel her feet upon the floor. A rope passing on either side of her, parallel with the trolley line, at such a height that she could conveniently place her hands upon the rope, she drew herself repeatedly across the gymnasium and learned gradually to place each foot before its fellow, alternately, as in walking. After a few weeks' practice in this manner she was given crutches, and at the same time braces were applied extending from her boots to the perineum, so adjusted that the knees were prevented from bending while she was in the upright position. The amount of suspension power was now gradually lessened, permitting more and more of her weight to come upon the feet and crutches. Gradually she acquired more and more ability to move forward by these aids, until within the three months she had learned to balance and to make progress without the aid of the trolley suspension. Throughout this period of training other means, also, such as massage, were employed. When I stated above that she was unable to move either limb while lying upon her bed, I meant explicitly what the words express, and that condition still persists. Notwithstanding this fact, when in the erect position, and her weight suspended almost entirely from the trolley line referred to, she learned in some way to make muscular effort sufficient to carry the limbs alternately, one before the other, as in walking. I cannot tell the exact muscle combinations by which this was accomplished, but practical efficiency has gradually improved until she has learned to walk with a fair degree of ease, aided only by the braces and crutches referred to. This may seem to be a small accomplishment, but when one considers that in regard to motility this was a case of complete paraplegia, and that this woman will be henceforth independent of the aid of any person in her efforts to move about, the benefit is certainly very great, and could not have been obtained without the aid of the physical education which has been given since September last.

Another illustration. A patient who from any cause permits the arch of the foot to drop down below the normal limit and allows the foot to roll into a position of pronation, may have the attention so directed to the use of the muscles which hold the arch in a normal position and have the habit of holding it in this corrected position so confirmed by practice as to overcome the deformity, hold the foot in its normal attitude and obviate the

pain and disability consequent upon flat-foot. In many cases, especially in childhood and youth, such treatment is more satisfactory than treatment by operation, by the use of flat-foot plates or by other mechanical means. It is well, however, to employ mechanical aids in addition to the physical training. Properly constructed boots are among the best means to be employed.

While thus speaking of the means used to improve the efficiency of the foot emphasis must be laid upon the habitual maintenance of a correct position. "The support and propulsion of body weight are the master functions of the foot. The straight

FIGURE XI.
Torticollis.

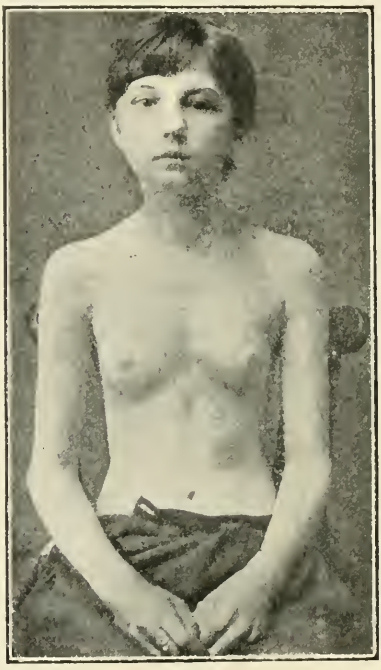


FIGURE XII.
After operation and physical training.

or nearly straight foot is naturally used by children, primitive people, mountaineers, guides, hunters and strong and enduring walkers and runners. The straight is the position of strength and efficiency. The out-toeing gait is typical of the weak and broken-down foot and is stiff, awkward and fatiguing. Spinal curvatures are usually found associated with weak feet, while the position of the feet advocated is commonly found associated with level pelvis and shoulders, straight spine and high chest. In this position the pose is easy and graceful and the contours pleasing and correct." (Henry Ling Taylor.)

Physical inefficiency is often the result of habit. A patient who became lame through the existence of disease, or from an injury, forms the habit of limping or of standing in a faulty attitude. While in the treatment of such a case it is well at the commencement to set right an unbalanced joint, straighten a crooked limb or correct other deformity, yet the physical training which should follow occupies just as important a place in the treatment as did the surgical operation or the mechanical support. Figs. 11 and 12 illustrate a case where operation, in a case of torticollis, was necessary at the outset. Afterward physical training was the essential treatment. Within the limits of

FIGURE III.

FIGURE IV.
Same patient as figure three.

the writer's experience such training as is here referred to is best obtained by working in classes. Class work has many advantages over individual work, as it secures the greatly desired association with, and example of, other persons, and affords the director due opportunity to bring into full play the pedagogic practices based on emulation. By such means it will be found that the limping that was so very objectionable, or the attitude of the body which has become habitual, may be made to so disappear as not to be noticeable to the ordinary observer. (Figs. 3 and 4.)

Perhaps it is in the correction of certain deformities that gymnastic training has been most generally employed as a therapeutic agent. Not many years ago curvature of the spine and round shoulders were treated very generally by means of shoulder braces and various mechanical supports. To-day it is recognized that such methods are more harmful than helpful.

Deformities of the spine and thorax are due to many different causes—congenital defects and irregularities in the skeleton, injuries or diseases, causing a lack of symmetry in the lower extremities, faulty attitudes assumed at school or at work being the most common. Radiography has come to our aid in showing that there is found, not infrequently, a congenital lack of symmetry in the two sides of the vertebral column. For example, in the transition from the cervical to the dorsal type, or from the dorsal to the lumbar, or from the lumbar to the sacral, the seventh or eighth vertebra may present cervical characteristics on the right and dorsal on the left, while the nineteenth or twentieth vertebra may have dorsal features on the right side and lumbar on the left, and a similar lack of symmetry may appear in the lumbo-sacral region. It will at once become manifest that this would cause the thoracic cavity to begin and continue lower on one side than upon the other, or would cause the base of the sacrum to present, not a horizontal plane, but one slanting in an oblique direction. Other congenital abnormalities also are found which are brought plainly into view as causative factors. Neither the abnormalities referred to nor the trunk deformities are likely to be noticed in infancy because the full effect of the lack of symmetry does not manifest itself until the upright position has been maintained for a considerable time. When the foundation upon which the trunk rests, or any part of it is oblique, the part immediately above must follow in a line which will depart from the vertical. This departure from the vertical will tend to increase as time passes and the departure to the right or left will disturb the body balance and will cause the part of the trunk still further up to lean in the opposite direction in order to maintain equilibrium. In this is found the explanation of the compensatory curve.

It will at once be seen that nothing can be done to remove the cause here referred to. There are also other causes operating to produce trunk deformity which cannot be removed; such, for example, as lack of symmetry in the lower extremities, or in the development of the two sides of the pelvis. These causes cannot be removed by any means, but in some measure their effects may be counteracted. Mechanical means, when applied to the lower extremities for the purpose just referred to, as, for example, adding cork under one boot to make up for a short leg, may be

employed advantageously, but when employed on the trunk so as to forcibly correct thoracic irregularities by continuous pressure, they hinder the natural use of the muscles, prevent normal development, and create a habit of resting upon a brace as a crutch to maintain the erect position, and the effect is likely to be more harmful than helpful.

In the physical training given to overcome or lessen these deformities the emphasis should not be laid upon muscular development, but upon education. There are two elements in this

FIGURE V.
Lateral curvature from infantile spinal paralysis.

FIGURE VI.
Same patient as figure 1.

work: The first has for its object the forcible temporary straightening of the spine and the making it supple. The second has for its purpose the educating of the individual. Means should be employed to have the patient assume the best attitude possible under the eye of the instructor; full explanations should be given; a large mirror should be employed, showing the body in its deformed attitude and when held in its ideal position. The patient should be encouraged to exercise before the mirror, so as to be able to observe the attitude maintained, should move away for a short time and return again to see how fully the best possible position has been held.

The question is not what particular form of exercise should be employed, but how nearly an ideal position can be maintained while performing all movements. It is this educative factor which is of the utmost importance. Like all educative efforts, its success will depend upon the ready co-operation of the patient. Hence the personality of the instructor is a most important factor. The best results, therapeutically, will be obtained by the teacher whose tact can secure the most loyal attention and persevering efforts in working toward the one end which is in view. (Figs. 5 and 6.)

There are other means which may be employed, means of great importance and efficiency, which may be best used in connection with the work in the gymnasium.

If the spine is to be rendered more supple and to be forcibly impelled toward a straight line it would seem one of the simplest and most effective methods to suspend the patient by the chin and occiput and allow the body weight to pull the vertebral column into a more or less vertical line. So far from this being disagreeable to the patient I find it a favorite amusement in the orthopedic gymnasium, where I have a rod running lengthwise along the centre of the ceiling, fifteen feet from the floor. From this are suspended six or eight ropes from which the patients swing to and fro through an arc of more than twenty feet, the entire body weight being suspended by the straps under the chin and occiput above referred to. The forcible extension may be carried still further by applying heavy weights to the feet. We have in this way employed weights up to the amount of fifty pounds while the patient is simply suspended, but not swinging. (Figs. 7 and 8.)

A further force is employed to urge the spine toward a straight line by employing a girth while thus suspended. This girth is passed around the body and pulled upward, and in such a direction as to make pressure at right angles to the curve and at the point of greatest convexity, thus using most powerful means to force the rigid and resisting spine and ribs into a better form and stretching the ligaments and other soft structures on the concave aspect of the spine. In the use of the girth the force should be employed, not in the direction of a transverse axis passing through the body, but nearly in an antero-posterior direction. The force is thus employed not only to lessen the lateral deviation, but also in such a manner as to lessen the amount of rotation, which element it is always difficult to correct. This method of forcible correction, among other advantages, has this, that it is entirely under the patient's control. Hence she is willing to relax more completely and thus allow the corrective force freer play. The only danger is in having made a mistake in

FIGURE VII.

diagnosis, and having admitted to the orthopedic gymnasium a patient who has disease and not simply deformity in some part of the trunk. I have employed this method for more than fifteen years without having had any occasion for regrets. (Fig. 9.)

Still another method of employing forcible means of correction is found in the use of the rotation rack, as seen in the illustra-

FIGURE VIII.

Same patient as in fig. 7, showing the effect of suspension of entire body weight.

tion. In this way a force may be employed up to the extent of at least eighty pounds. (Fig. 10.)

Corrective force employed as described above is much more effective than when employed through the agency of a brace or of any form of Zander machine. The brace exerts a continuous pressure force and therefore tends to produce atrophy, hinders development and growth and encourages the patient to lean upon the brace as upon a crutch. A force applied directly by another

FIGURE IX.

Same as figures 7 and 8, showing here suspension of body weight, thirty pounds additional and lateral force of the girth.

person is not so well endured as when the patient has control of it.

As day after day these forcible methods are employed and the spine thereby rendered more supple, these means should be followed always by free, voluntary, educative work, when the pupil-patient must maintain by personal effort what has been

gained by forcible methods. A very determined effort must be made by the instructor and by the patient by all means that may be employed to carry the degree of correction to the utmost limit by this voluntary effort. At this point we have reached the most important part of physical training, namely, the stage of education.

Though physical training may be employed to correct digestive troubles, incipient affections of the lungs, obesity, chronic chorea, and many other diseases, yet I shall refer at this time to only one other.

Functional derangements are exceedingly common. Of the

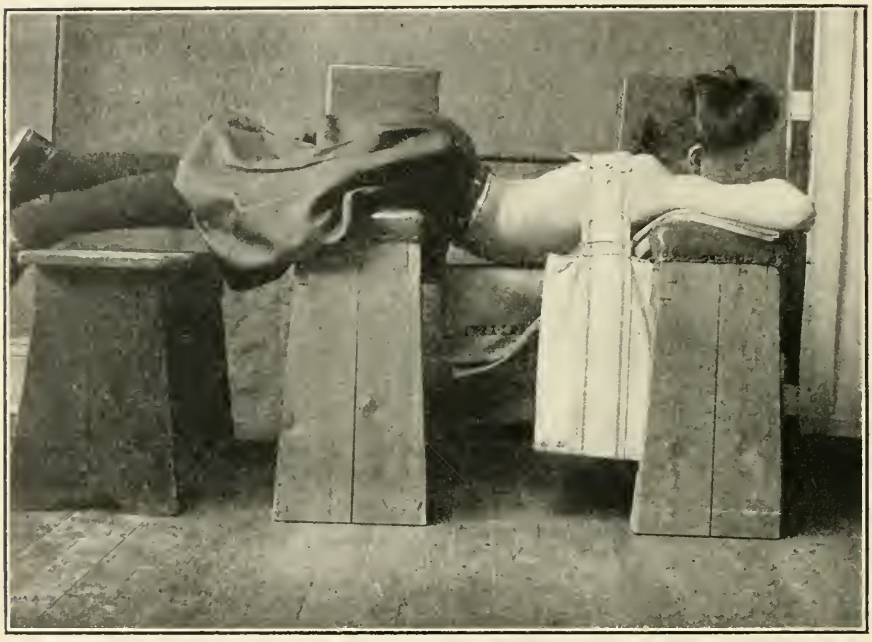


FIGURE X.
Weight applied to correct rotation.

various human ills to which the attention of the physician is called a very large portion have no organic basis. The term "spinal disease" is frequently employed where it has no definite and well-defined signification. Under it are hidden a large and varied class of functional disabilities which are exceedingly trying to the physician. They are due very largely to a lack of self-discipline on the part of the patient or to environment. The so-called "spinal irritation" is often spoken of and treated as if it were a lesion of the spinal cord and of its meninges, while in reality it is due to unhealthy and abnormal functionating of the higher centres. Such patients sometimes lead a life of in-

validism for many months or years, are taken about in wheeled chairs, or are found reclining on sofas, utterly unable, apparently, to engage in the ordinary activities of life. It is a very difficult matter, frequently, to determine what is simply functional and what is logically the consequence of organic disease. Assuming, however, that a correct diagnosis has been made, there are no means more ready and effective for the physician's use than the discipline and work which may be obtained in the gymnasium.

The "Weir Mitchell System of Treatment" marked a great advance in the management of such cases, but it is essentially passive; the active element is wanting. The patient is acted upon by drugs, diet and massage and by the will power and force of character of other persons; but little is done to call out or to educate the volition of the patient. She is kept in bed, secluded from friends who would show unwise sympathy, fed well, and given massage and rest. This method of treatment is called the "rest cure"; it falls short, inasmuch as it is negative in character. Systematic training to self-reliance and renewed confidence are needed to render the cure effective. Though the patient should seemingly regain health, it is soon found that life is not a negation, but that its problems must be grappled with in a positive manner and solved. The volition of the patient must be called into exercise. It is not so much a cessation of activity—mental and physical—that these unfortunates need, as it is that their energies should be directed in right channels, that they should be led not to think so much of themselves, but to centre their attention upon interests and aims outside of their own person, in a word, to beget in them and to cultivate a true altruism, and to suppress a corresponding, a debilitating egotism. The surroundings should be such as to arouse interest, new if possible, cheerful always, having an evident useful purpose, calculating to inspire self-confidence and to suggest personal responsibility.

While the general work done in the gymnasium is in itself helpful as a means of obtaining exercise and development, yet it is not chiefly for that reason that it is employed. The main desideratum is discipline and the creation of an ideal toward which the patient may reach, the establishing in each one a clear conception of personal duty and responsibility, and the confidence that application will reach the ideal and will insure that the responsibilities imposed by society will be met and borne cheerfully.

As a therapeutic agent physical training has a much wider field than has yet been accorded to it. It is directly in harmony with the teaching upon which so much emphasis has been well laid in recent years, bringing into greater prominence physiological methods and affording natural methods a larger scope.

A CASE OF ACUTE SUPPURATION OF THE MASTOID—LARGE EXTRA-DURAL ABSCESS—SEPTIC THROMBOSIS OF THE LATERAL SINUS—OPERATION, INCLUDING RESECTION OF THE INTERNAL JUGULAR VEIN—RECOVERY.

BY PERRY G. GOLDSMITH, M.D., TORONTO.

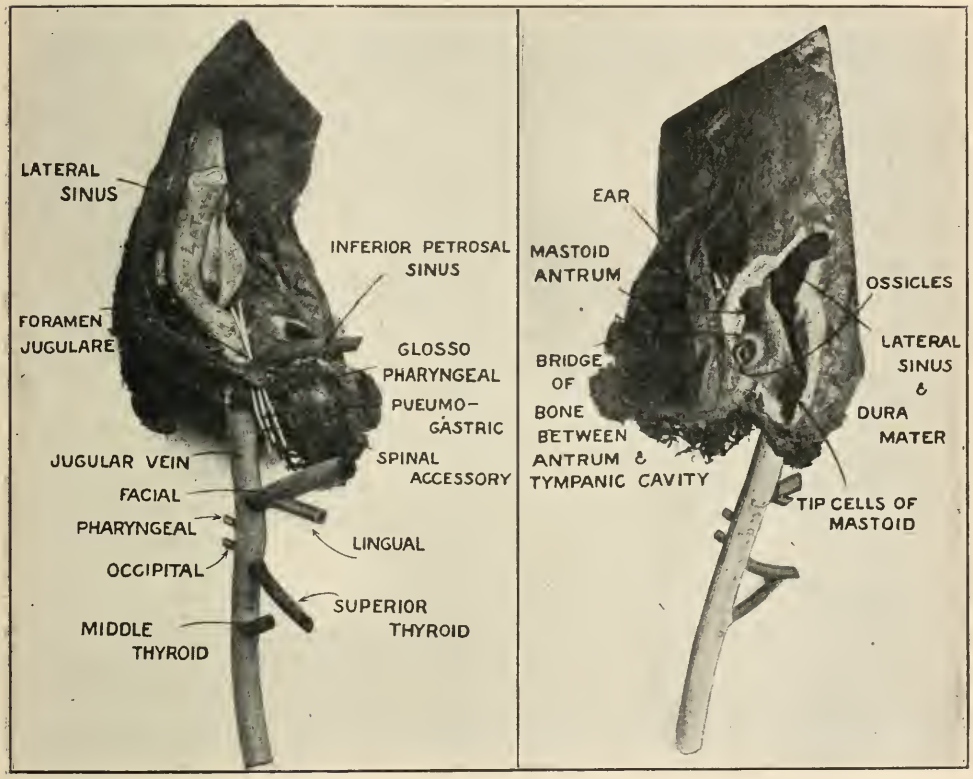
Mr. Chairman and Members of the Ontario Medical Association,—Permit me to present to you this morning the clinical history of a case which shows the seriousness of an aural discharge, not only in its relation to the function of hearing, but also to general systemic infection.

All of you have had in your practice cases of discharging ears of short and long duration, which, with the exception of impairment of audition, have produced little or no appreciable effect on the patient. Some of you have seen the process advance acutely, and, after some varying lapses of time, to infection of the mastoid cells and dura mater, while few, I think I am safe in saying, have seen cases where not only the mastoid cells, lateral sinus and meninges were involved, but when the infection has passed into the jugular bulb and general circulation, producing a general septicemia.

The case I present to you comes under the latter classification, and illustrates well Sir William Wilde's saying, "When a discharge from the ear exists, no one can tell how, when, or where, it will end, or to what it may lead."

Miss A. R., aged 27, patient of Dr. Bascombe; family and personal history unimportant. On the 17th of February, 1907, felt chilly and went to bed with a sore throat and some fever and thought she had tonsillitis. On the following day a severe throbbing pain came in the right ear, followed in four days by free purulent discharge and complete relief from pain. The discharge continued for the next three weeks, associated with pain radiating over the right side of the head and felt most acutely behind the ear. During this time she was in bed only periodically, and her temperature ranged around 99 and 100. She was rapidly losing weight and presented the appearance of a very sick person, with feverish spells and occasionally chilly feelings. During the third week in March she had a very severe chill, followed by profuse sweating. Another chill with temperature after the chill of 103½ followed in four days. Vomiting occurred after the chill, and the sweating had now become quite constant. The pain varied in intensity and at times was very severe, for which she used morphia tablets. I now saw the

patient for the first time. There was a very profuse discharge from the ear, much more than could be secreted by the tympanum alone, and some, though not very marked mastoid tenderness. There was no edema or stiffness of the neck. Temperature 101½, pulse 120, respiration 22. Operation was at once decided upon. The mastoid was found full of pursating pus, showing that there was already a considerable exposure of the dura. The antrum lay very high and was associated with quite a shallow



middle fossa. All diseased bone was removed, and the lateral sinus thoroughly exposed. The vessel wall appeared healthy and there was a noticeable slight pulsation. The posterior bony wall of the external auditory canal was removed down to, but not including the bridge, as is advised in the *Heath* operation. The lateral sinus was not opened, as it was considered that all the symptoms might be caused by the condition found in the mastoid. That evening and the next day the patient progressed very nicely, but in the next evening the temperature gradually rose to 102, and then 104 3-5, with a marked chill, profuse sweating and pulse 148.

The wound was unpacked and the bone cavity appeared healthy. The dura appeared to bulge very considerably. I aspirated a small amount of serous exudate through the dura, which was subsequently found sterile. The lateral sinus showed no fluid blood on aspiration, but as this is a very fallaceous sign, I did not rely on it. The case now seemed to be quite clearly one of lateral sinus thrombosis, with infection through the jugular vein. The patient was given an anesthetic again, and the lateral sinus opened—a soft, semi-fluid, yellowish clot was found. The bone was removed for about 1½ inches upward and backward towards the torcoli, and the clot was found to have extended further, as no bleeding occurred on curetting the clot. The semi-fluid clot was also found to extend well downward to the jugular bulb, and could not be safely reached to its extremity with a curette. I thereupon decided that in order to give the patient any reasonable chance for recovery it would be necessary to stop any further poison from getting into the circulation. The neck was then carefully cleansed—brisk rubbing might dislodge a piece of clot—and the jugular vein reached just above the inner end of the clavicle and ligated just above the point where it is joined by the subclavian. I intended following the vein upward, and ligating as near its exit from the skull as I could, but the patient's condition demanded an early cessation of the operation. The vein was then tied just below the facial and the intervening piece removed. It was not hard or cord-like in this part, and I was then evidently below the clot. The neck wound was flushed out and sewn up with a cigarette drain in the upper end. The lower end of the remainder of the vein was not opened, nor was it flushed through from above, as I would do on another occasion. The sinus above was thus cleaned of clot well back until a free flow of blood occurred and this end packed. The lower end was also cleaned, but no bleeding ensued, showing the inferior petrosal sinus was also thrombosed, as well as the posterior condyloid vein. The subsequent history gives little to record. On the sixth day I wished to remove the stitches in the neck wound, but owing to the very low state the patient was in no evidence of healing had taken place. The two stitches which were removed allowed the incision to open just as though it had only been sutured, and did not even bleed. The patient's temperature came down at once to 99 and 98 3-5, with a very much slower fall in the pulse rate. The healing has been uneventful and without any irrigation. There is no discharge from the ear and her hearing is quite normal. Owing to the adoption of Heath's method, I was able to clear out the middle ear of mucous and pus by inflating through the auditus, and the very excellent hearing my patient has bears out Heath's statement that its greatest value is in the saving of audition.

I wish to present some prepared temporal bones, which show the extent of the operation, as well as the lateral sinus jugular vein and its branches.

Discussion.

Dr. Price Brown,—Congratulates both gentlemen on the excellence of their papers. Dr. Goldsmith's case has been followed by excellent results with regard to the hearing of the patient, being much better than usually follows so severe a mastoid operation. I would like also to emphasize what Dr. Royce has said about the advisability of free and early operative treatment of the drum membrane in cases of suspected mastoid disease; when incision of the drum membrane is required at all it shall never be by mere puncture, but by free incision of such a nature as to produce free drainage. As an illustration of this I mention the case of a lady referred to me lately as suffering from mastoid disease of such severity as to call for immediate operation. I found a tense drum membrane and freely incised, with free discharge of pus. Washed out regularly with boric acid for several weeks, resulting in complete healing, without mastoid operation.

Dr. Wishart.—Did not understand cause of operation on jugular vein in Goldsmith's case. The symptoms of thrombosis seemed to be absent, and if it were present, the operation was insufficient. The paper of Dr. Royce was a masterly exposition of a very interesting subject, and the author to be congratulated. The diagnosis of these cases is often a matter of difficulty. The so-called cardinal symptoms not to be relied upon. Increased experience means decreased trust therein. The majority of his adult cases in the past winter had presented none of these—swelling, congestion, and if tenderness, only at the posterior part of the tip. Had found leucocytosis of some use.

Dr. G. S. Ryerson protested against promiscuous opening of mastoid in acute disease. Free leeching, draining of middle ear will often relieve. He believed that the radical operation was too often performed, but in proper cases the results were most satisfactory.

Dr. Goldsmith's Reply.—Referring to possibility of return flow being set up in the post-condyloid vein and inferior petrosal sinus by ligating the jugular, it must be remembered that no return flow of blood occurred in the patient after opening into the bulb, which probably would have occurred had these not been thrombosed; furthemore, according to Dr. Hugh Jones at the recent B. M. A. meeting, the peculiar means of joining by a slit-like orifice of the inferior petrosal with the jugular practically eliminates all danger of return flow. Cord-like feeling in the jugular vein is practically never found, and need not be considered as an indication. The case was one whose clinical history was typical

of those cases of jugular bulb infection in which resection of the vein is *imperative. The indications for ligating the vein were very clear; in fact, no symptom at all was lacking,* and from the symptoms present I would have been quite justified in tying the vein before opening the mastoid. As to the operation being *insufficient,* I think the unusually extensive operative procedure employed and the result secured speak for themselves. Dr. Ryerson spoke of the necessity of conservatism, and not too much eagerness to operate on the mastoid. I agree very heartily with this, and with him would rather cure my patient by simple measures directed to the cause than graver operative procedures.

TREATMENT OF FUNCTIONAL NERVOUS CONDITIONS—WITH REFERENCE TO CASES.

BY WILLIS S. LEMON, M.B.

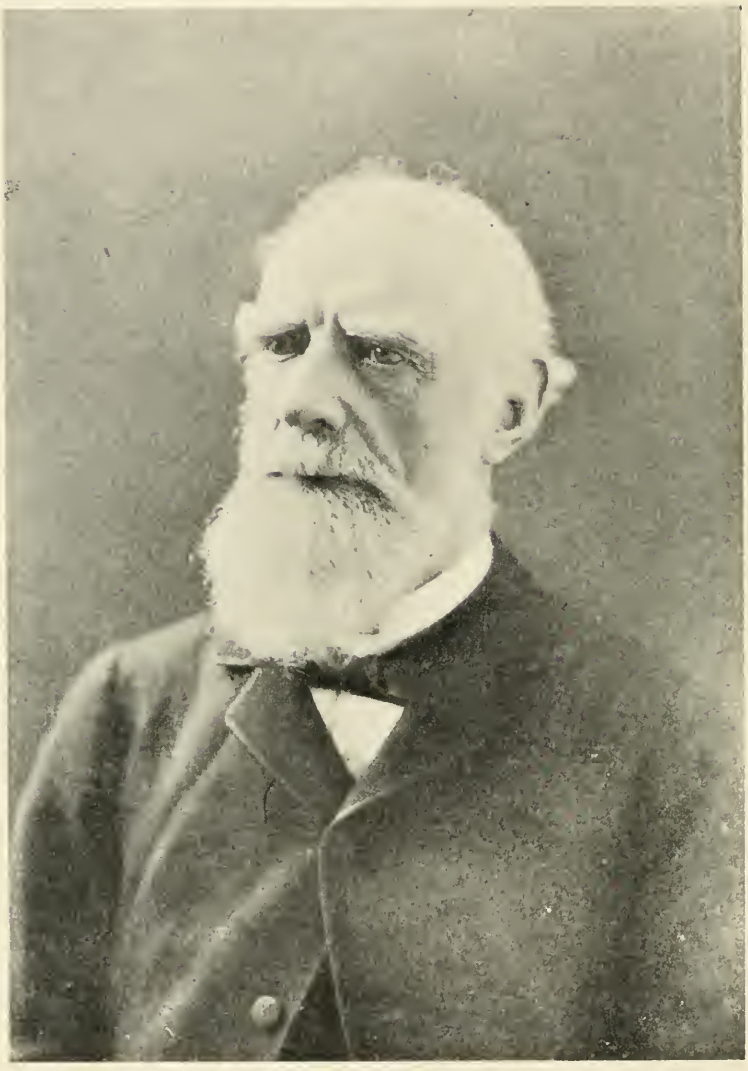
Within the last few years much thought and energy have been expended in the creation of a rational treatment of these curious cases resulting from weakness or exhaustion of the nervous system and presenting a most motley group of symptoms, affecting almost every system and organ of the human body—so complex, indeed, that for many years patients so suffering were looked upon with not a little misgiving, or with even open distrust. Men formerly believed these cases, in which no real organic basis for the symptoms complained of could be discovered, were in reality the result of the conscious will of the patient and thus called for no sympathy, and of consideration regarding treatment and succeeding cure little or none at all.

The terms neurasthenia and hysteria were regarded as synonymous with fraud and malingering. But now we are sure that the conscious mind cannot bring about the vague discomforts, the incessant weariness, hyperesthesia, anesthesia, limitation of usual fields or rise of temperature, or swollen, hot and reddened joints in exact simulation of organic disease, and we can be equally certain that the areas of hyperesthesia are tender and that the pains and aches, the discomforts and terrors complained of, are as real, and even more trying, than if organic disease were really present to call them forth. It is because of the soundness, in my opinion, of that reasoning and because I am sure it is the only workable premise upon which to base a foundation for a rational treatment, that I have chosen the "Treatment of Functional Nervous Disease" as the subject for this paper.

I have been helped toward this belief very largely by the study of a series of cases in the nervous wards of the General Hospital—the establishment of such being in itself an evidence that men had, years ago, even, adopted the faith and, believing firmly, had worked untiringly and with discouragements known only to themselves until their establishment, when rational treatment—or at least rational as far as our present knowledge teaches—could be carried out with hope of cure.

It was while in charge of these wards that I saw many real recoveries.

The plan of treatment, varied, of course, to suit the particular patient, is that suggested by Dr. S. Weir Mitchell—of which Osler remarks, "The remarkable results obtained by this method are now universally recognized." It is one now quite well known to



LORD STRATHCONA.

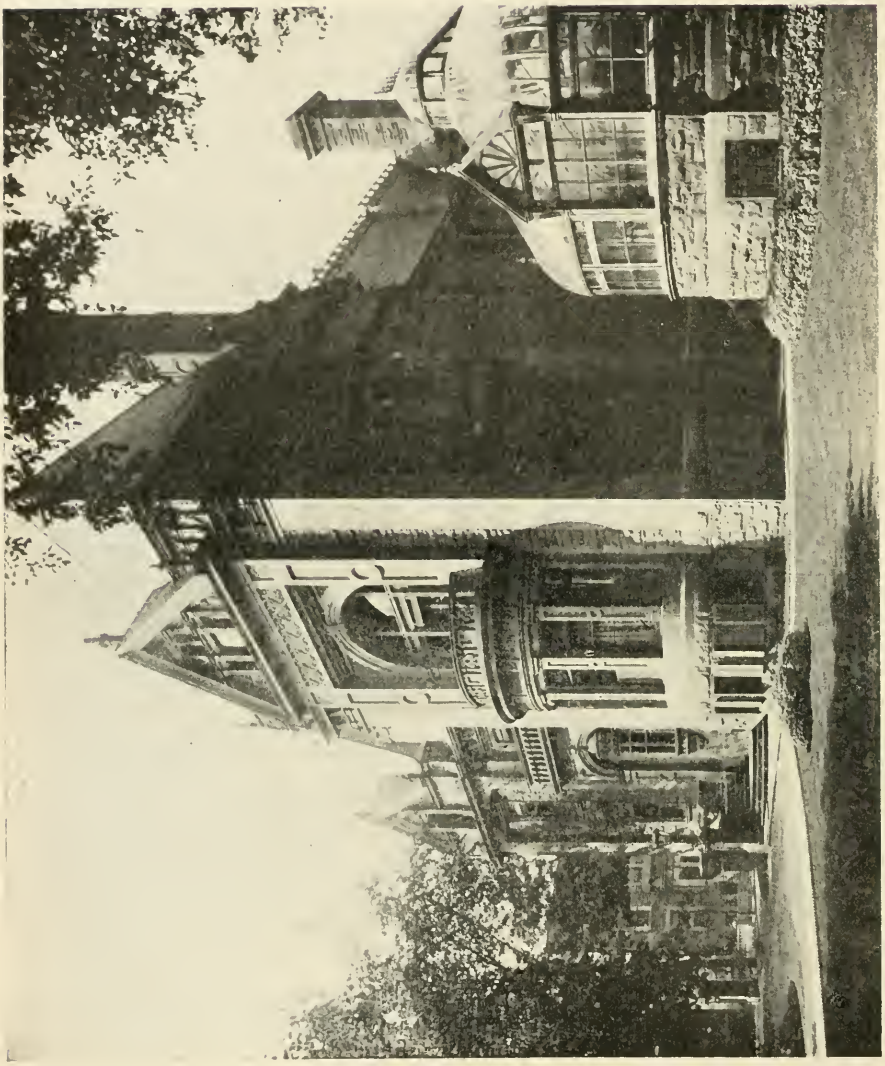
the profession in America, has been discussed favorably at the British Medical Association meetings, endorsed in the Old Land by such men as Playfair and Ross, and accepted on the Continent.

Among the first cases studied was S. L., a woman 62 years of age, who gave the following history: Patient came to the hospital on Sept. 9th, complaining only of depression and extreme weakness. Her family history was without stigma of mental disease and only one member of her own family had even suffered from "nerves." She had been a perfectly healthy and normal child and girl, and had continued so until after her marriage, when two miscarriages in quick succession, seriously undermined her general health. She became depressed and despondent, and since then when physically weakened these symptoms have returned. For this reason she came as rather an unfavorable case, since most can be hoped from the early acute case. Two years ago she had another acute attack which took her some months to recover from, and left her even more weakened than before. During each of these her condition was one of deep despondency associated with severe headache. Last spring she had recovered, but as the summer came on she became more irritable, was worried over trifles, lost her appetite completely, was sleepless and emotional. She cried a good deal over nothing in particular, grew very thin as her despondency increased, lost interest in her surroundings and in her family and even in her own recovery, of which she quite lost hope. She gave up work in August and had neither the desire nor the strength to exert herself in any way. On admission she said she felt depressed, that her memory was going, that she felt weak and languid, especially in the morning, and had no desire for food. The mental process seemed slow and events, though recalled, were done so only after effort.

On examination no organic lesion could be discovered. The treatment adopted in this case was as follows:

Chemical.—The bowels were cleared thoroughly with calomel, grains ii., given in half-grain doses, followed by soda phosphate, drams ii., in the morning, and they were kept active by the use of cascara or A. B. S. & C. pills, which in the experience with these cases, have been found probably the most satisfactory laxative.

With these cases where there is torpidity an intestinal antiseptic consisting of bismuth, B. naphthol and salol, each grains v., is given three times daily, and in this case a tenth of a grain of calomel was added. Just what benefit is derived from the use of this remedy I cannot say, having had too few cases to generalize. Bromides—the sodium salt in doses of grains xv. to xx.—were administered along with small doses of liq. arsenicatis, which acts as a tonic and also prevents the occurrence of the unfortunate bromide rash which, besides being harmful in itself, so frequently



LORD STRATHCONA'S RESIDENCE, MONTREAL.

causes the patient to become discontented with the treatment and so reacts seriously on the psychic element, that must enter into the treatment of all nervous conditions.

Later, during October, she was given a tonic mixture containing iron and quinine. But not so much stress is laid upon the chemical as upon the physical treatment, comprising food, electricity, baths, etc.

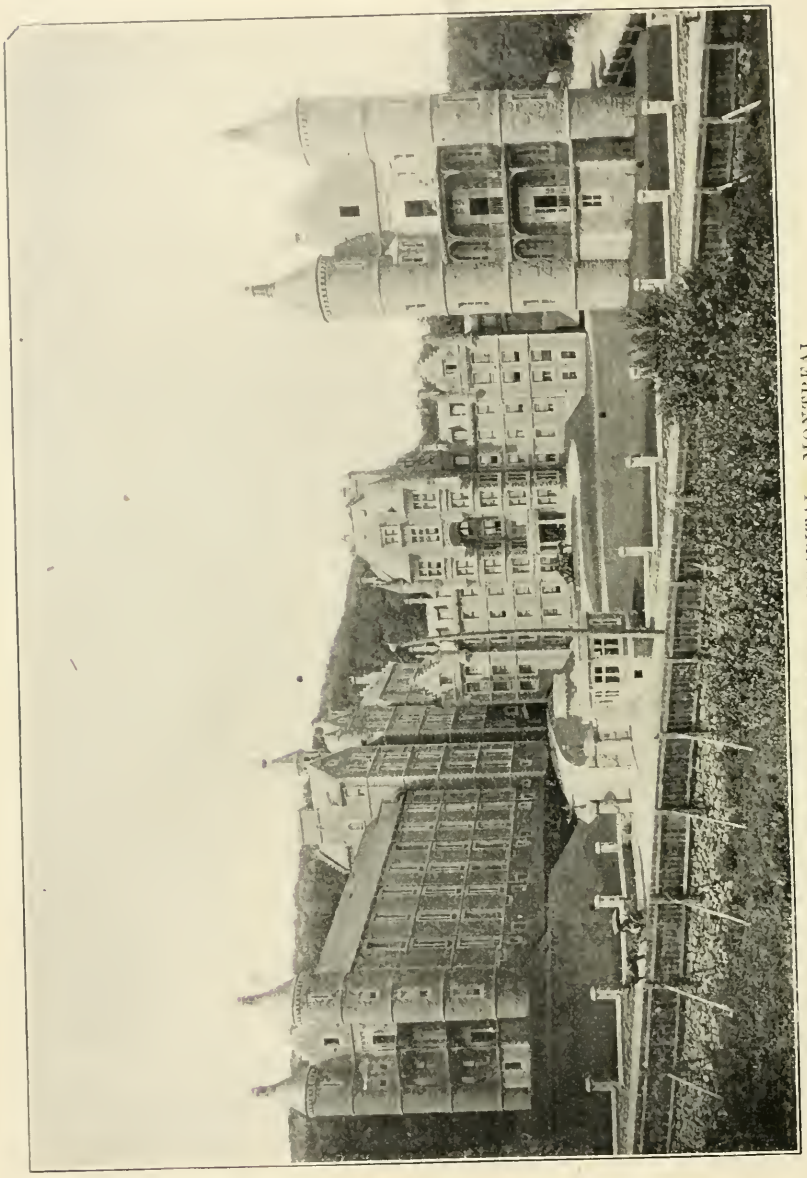
Food.—Patient was given the routine dietary, varied, of course, as her particular condition seemed to demand. Gradually her dietary was cut down from full to light, and then milk given between meals to make up for the withdrawal of solids. This was increased in amount and frequency of administration, till by the third day she was given only milk and was taking from six to ten ounces every two hours. In the mornings she was given an orange so long as the rigid milk diet was continued. This was kept up at regular intervals and was always taken slowly, sipped in mouthfuls, and at times lime-water added, if the digestion became more than ordinarily impaired.

Apart from the case in hand it was found that (especially in case of J. H.) buttermilk, barley or rice water, added to milk, could be substituted with benefit for variety's sake. We never gave the children's foods, such as malted milk or Nestle's food, etc., as suggested by Weir Mitchell.

Usually the exclusive milk diet is supplemented after about the twelfth day, but in this case it was continued for double that time because of intercurrent bronchitic attack. She was then given, for breakfast, in addition to milk, gruel or porridge and a cup of milk coffee. For dinner, broth, biscuit and custard, in addition to milk, and for supper, a milk-broth and biscuit, followed by ice-cream and jelly.

Usually, by the fourteenth day, a thin slice of bread and butter may be added to each meal, and for dinner, scraped beef, chicken or fish, with celery, lettuce, etc., the addition for supper.

Diet was then gradually increased until by the next week full diet was being given. The patient's diet time-table, then, could be expressed thus: Breakfast, 8 a.m.; milk, ounces viii., 10.30 a.m.; dinner, 12 noon; milk, ounces viii., 2.30 p.m.; supper, 5 p.m. Egg-nog, oyster, egg, egg-chocolate, etc., were now substituted at times for the mid-meal milk. With none of the cases treated in the nervous wards was malt extract used, as Mitchell recommends, and in only one case, Miss H., was the patient fed by the nurse, though this is also deemed a necessity by the above author. He also uses, on occasion, whisky in milk, or a glass of dry champagne as an adjuvant, thus increasing the capacity to take food. This has never been resorted to in treatment of cases in the hospital wards.



ROYAL VICTORIA HOSPITAL, MONTREAL.

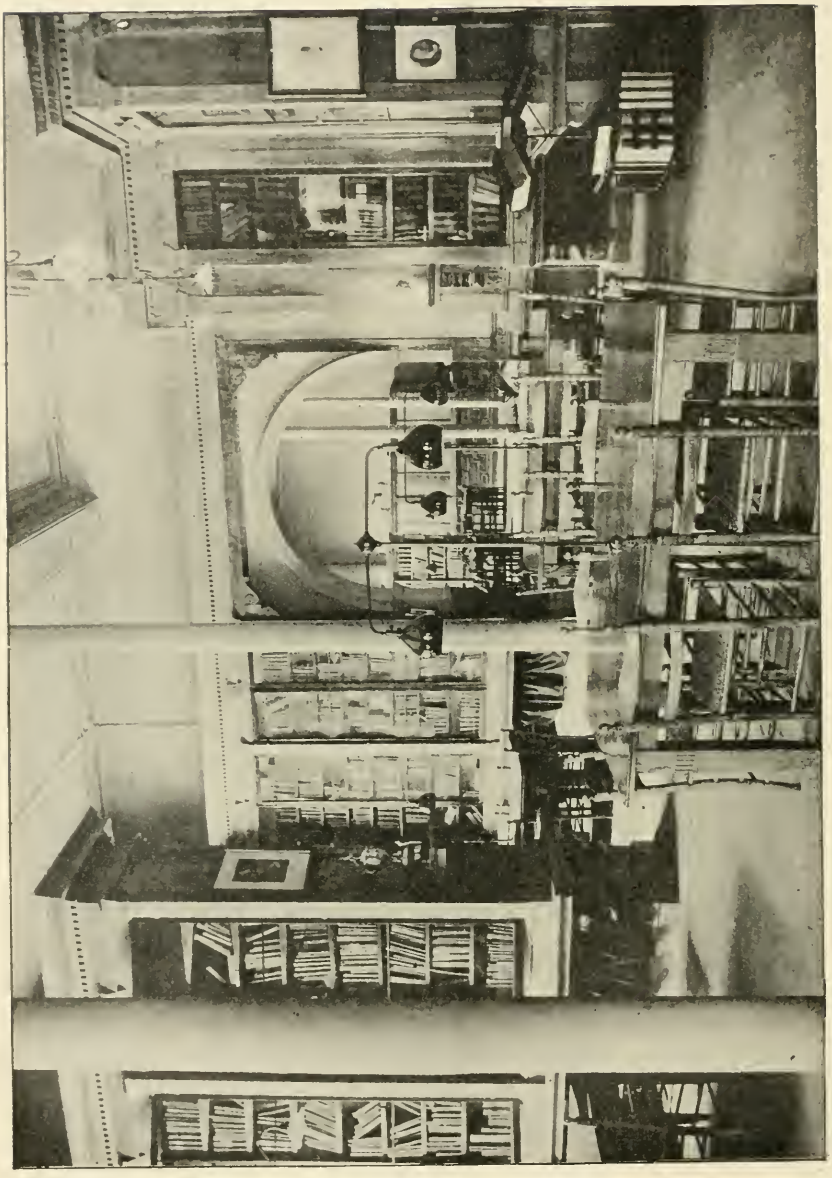
In comparison with the diet list given for patient above, the following is one of Dr. Mitchell's schedules: Iron and malt, breakfast (chop, bread and butter), milk, ounces viii., at 8 a.m.; soup at 11 a.m.; iron and malt, dinner (anything), champagne, ounces vi., milk, ounces viii., at 2 p.m.; soup at 4 p.m.; malt and iron, bread and butter, fruit, milk, ounces viii., at 7 p.m.; soup at 9 p.m.

Electricity.—With this case Faradism for forty minutes each day was continued throughout the whole stay in the hospital. The galvanic current was never used, and, having no experience with it, I cannot speak of its benefits. With the Faradic the whole body is treated. Starting at the feet, one leg at a time is treated, then the abdomen and chest, followed by each arm in turn. The patient is then turned on the face and the back treated—especially the spine and backs of the legs. The patient found this to rest and make comfortable the aching and soreness that frequently settled in that area.

Baths.—The patient was given each morning a tepid bath, followed by a spray, each at 103 deg. temperature, the spray being gradually lowered to cold. With female patients a rubber cap was always worn.

Mechanical Treatment.—Comprising massage, exercise, rest, etc.

Massage of the whole body except the face was done daily, generally in the forenoon, and lasting for forty minutes. This was always done by the nurse in charge, or under her supervision until any of the younger nurses became experienced enough to do the work alone. Apart from the present case, I think one patient should always have the one nurse who seems most suited to her case, and that that chosen nurse should have exclusive charge of the patient. Changing from one to another, even though professionally there may be no choice, does no end of harm and may even prejudice any chance of success. Some are peculiarly adapted to certain cases, and though all should, as Osler says, be "bright, intelligent women," with few nerves but much controllable sympathy, rather better demonstrated than otherwise expressed, yet there is, no doubt, a peculiar psychical effect produced which reacts for good or does incalculable harm. This influence lost, however, one *must* change the nurse. Weir Mitchell says: "One of the questions of most importance in the carrying out of the treatment is the choice of a nurse. Just as it is desirable to change the home of the patient, her diet, her atmosphere, so also is it well, for the mere alterative value of such change, to surround her with strangers and to put aside any nurse with whom she may have grown familiar. As I have succeeded in treating invalids in their own homes, so have I occasionally been able to carry through cases



STUDENTS' READING ROOM, MEDICAL LIBRARY, M'GILL UNIVERSITY.

nursed by a mother or sister or friend of exceptional firmness; but to attempt this is to be heavily handicapped, and the position should never be accepted if it be possible to make other arrangements. Any firm, intelligent woman of tact, a stranger to the patient, is better than the old style of nurse, now happily disappearing." To find the congenial as well as the suitable, from a professional viewpoint, becomes one of the physician's hardest problems.

But to return to the case in hand. After the first day in the ward, no visitors were allowed for the next three weeks, when her husband and her daughter were allowed to call once a week for a five to ten minute visit. The patient was never confined to bed in a separate ward, but, like so many others, she was not at all upset by strangers, though much so by those of her own family—possibly because she was led back again to think in channels that had helped cause her breakdown, or the old associations, worries and cares, imaginary though they seemed to others, yet real enough to her, were recalled. After the four weeks were up and her recovery assured, she was allowed more liberty—to read and to write, to receive and to send letters, and to entertain visitors.

This, then, would be about the routine of her life after the first three weeks of bed and seclusion were over: 6 a.m., milk, ounces viii., cold or hot, or other fluid; 7.15 a.m., up, bath and spray; 7.30 a.m., back to bed till breakfast; 8 a.m., breakfast in bed, rest and sleep, or entertainment with books, pictures, etc.; 9.30 a.m., massage for forty minutes, sleep after massage; 10.30 a.m., milk, rest and entertainment till dinner; 12.30 a.m., dinner, rest for an hour; 1.30 p.m., Faradism for forty minutes; 2.30 p.m., fluids, milk, etc., verandah for 1½ to 2 hours, exercise; 5 p.m., supper, bed till evening; 6.30 p.m., alcohol rub, bath or cold pack if necessary for sleep, massage of tender spots, etc.; 7.30 p.m. to 8 p.m., lights out.

This case made marked progress and was perfectly well on leaving the hospital, having regained her old standard in weight with a hemoglobin register of over 80, in good spirits and in every way a perfectly normal woman. Months later, when seen, she had remained well, or if anything had improved. As this case illustrates the type, the nervousness from oncoming age and weakness, the following will illustrate the case so frequently met with, the nervous from childhood, having inherited the "neurotic diathesis."

C.A., a bright, intense young man of 25 years, following an occupation demanding hard, nerve-exhausting work, and no manual work of any kind; one who had studied his own case and could talk learnedly concerning his trouble, saying, for example, that he suffered from instability of the nervous system, inability to think consecutively or to concentrate without excessive exhaus-

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tion. He was the product of neurotic parents, who had given him as an heritage an exhausted capital of nervous energy. Pampered and petted as a child, with every whim indulged or wish anticipated, he found himself unable, when he grew to be a man, to cope with the daily cares and the work of a profession, most unwisely chosen, because of its demands, particularly upon the man's nervous energy.

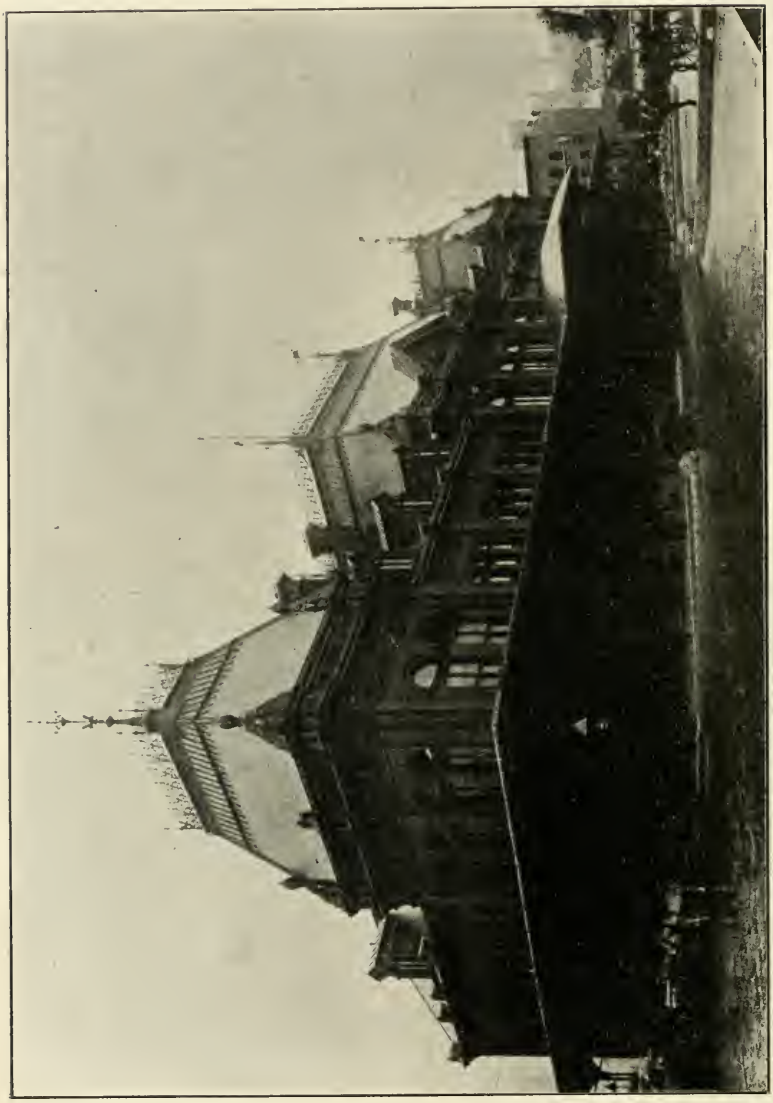
Coming to the hospital after having already suffered twice from exhaustion, he presented about the most difficult case one can have to deal with. Possibly had he been fat he might have been somewat a more hopeless case.

He was placed upon the routine treatment already described, but kept in bed for a month, the last week only with the greatest difficulty. Such a case, I believe, cannot be treated by routine. For two weeks he was so exhausted he was glad to stay in bed and in a separate ward and to accept the routine described, but after that he began to fret for more liberty and might, perhaps, have made a better recovery had he been allowed it. As it was, he quite lost control of himself, became emotional and even hysterical, until placed on the verandah, after which his recovery was rapid.

Such a case, I think, is the better for the routine, but should be hurried along as soon as the physical exhaustion is over, given liberties, such as reading and writing, and some exercise, such as the dumb-bells or clubs afford, and, though allowed few visitors, especially friends, should be entertained and soon allowed to entertain himself. This is the kind of case, beyond all others, where the physician's own personality counts for most. Above all the patient must have confidence in his physician and must know that much of his improvement depends upon his own co-operation, and that, most probably it must be extended over a length of time.

Almost always we get such a case just a generation too late for successful work, but it is the one class which most of all one can do good prophylactic work. These are they who from infancy even should be submitted to what Osler calls "psychic hardening," and the strength of the body encouraged even at the expense of the brain. The tendency to become "boy orators" or "infant prodigies" is strong here and should be absolutely discouraged, and if necessary the child removed from the care of the fond and proud but emotional, capricious and incapable parent.

C. A.—Improved in health and strength, and was advised to give up his work and to spend his time for a while at least on an ocean trip, when it was hoped the bracing air and change of scene would complete the cure. He left us better probably than he had ever been in his life, but I have heard since that the advice given was not followed and that he was again a patient in an hospital.



BONAVENTURE DEPOT, MONTREAL.

The third class of case is well illustrated by C. B., the type of those whom overwork and strain has at last broken down a strongly resisting nervous system, and they surprise themselves and even disgust themselves when they find they are unable to do their routine work.

C. B. was a strong, vigorous woman, without "nerves" to speak of, one of those who look rather without sympathy on anything emotional. For years her independence kept her at business, where she undertook even more than her share of responsibility, and bsides this, her superfluous energy and conception of duty found vent in church work among the slums of the city in which she lived. Everything she did was always most conscientiously and perfectly done, and for ten years, without sign of wear. Last summer she became more easily tired and more than ordinarily reduced in flesh, but her holiday in the country improved her condition and she came back to renew her work with her old-time vigor. This spring, as the press of work came on, she began to lose interest, grow tired and a bit melancholy, but did her work, till one day she surprised herself by starting to weep for no particular reason, and was unable by exercising her strongest will to stop. This continued for days. She lost her appetite, could not sleep, and dare not trust herself to do her work.

C. B. was not given institutional treatment, though I think two to three weeks would have helped her a good deal. She was sent to the country and advised to carry out the following routine of treatment:

Chemical.—Bromides for three to four weeks; Easton's syrup, dram i., t.i.d. p.c., though in most such cases the elixir glycerophosphates acts even better. In this, however, it was felt that the case was too urgent for the milder tonic. She was not prescribed either isolation, massage, or faradism, but was given the diet prescribed for the third week in Case 1, with the intervals of rest in bed—the rest of the time to be spent in the open air walking or riding or driving, or any other light exercise that stopped short of actual fatigue. Salt baths each a.m. were prescribed, with addition of warm bath at night if sleepless. To this class belongs the business or professional man not naturally neurasthenic but overdone by the strenuous life and demands of present-day business.

These are probably the most hopeful of all cases, and frequently do not demand—as the case quoted did not—institutional routine treatment. For them it may be sufficient to enjoin absolute rest with change of scene and diet.

These are, I think, the three great classes, and I have attempted to outline their general treatment without going into the care of particular emergencies that may arise or of particular organic symptoms, such as the multitude of confusing pains referred to

VICTORIA JUBILEE BRIDGE, MONTREAL.

the various organs of the body. No rule can be laid down for them, and one must trust to one's own originality and resource to deal with them. In only two cases, however, speaking of hyperesthetic spines, etc., was it necessary to discontinue the use of massage or faradism, and with us tapotement is practiced as well as the rubbing and stroking motions. Faradism, the cold baths, Scotch douche, etc., and massage, are discontinued with female patients during the menstrual period.

In Summary.

Seclusion.—One need add only this: 1. That it is in most cases an absolute necessity. It becomes needful to disentangle them from the meshes of old habits and to remove them from contact with those who have been the willing slaves of their caprices, for sure enough where there is one there are likely to be made two who will suffer together. It is useful as a prophylactic measure, as well as an active.

2. It should be borne in mind that each case must be treated individually, and therefore studied on its own merits. Thus no regular length of time can be arbitrarily laid down. Some patients do well for a longer, some on a shorter time, and if one can generalize at all, women stand the ennui of rest and isolation better than men.

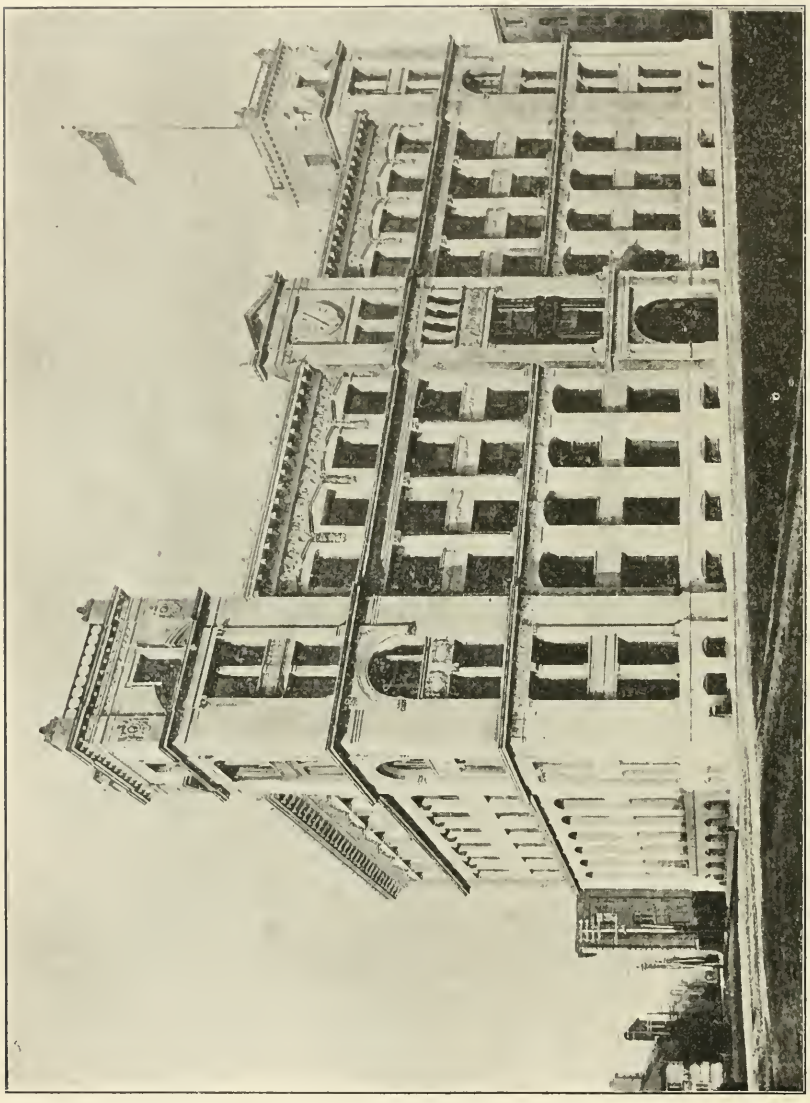
3. As pointed out before, seclusion is not essential, though it may do no harm for those who fall in Class 3, the broken down, feeble, thin, and possibly anemic, from overwork and exhaustion.

4. It is not good for those "happy invalids" unless it be made absolute—no reading, no writing, no letters, no visitors, and as few calls as possible by nurse or physician; in fact, let it be made anything but a pleasant pastime, such as they would enjoy.

Of rest one can say much the same thing. When to prescribe rest and when exercise is the big question. It is probably safe in most cases and imperative in others. For example, Case 3 could not have been made walk.

For those who deceive themselves into the belief that they really cannot, but whom you are sure can if they will, it sometimes is of immense value in discipline to make them see how much they can do if they are made to will. And herein lies the value in large measure of institutional treatment—relieving those of worry who try and will, but haven't the muscle to act, and stimulating those who have the latter but not the will to make their strength of use. To the former rest often brings a sense of relief, and many times in itself causes a disappearance of the especial pain that has caused anxiety.

One should be able to order out of bed as well as order to bed, but one must prepare the muscles of the body for the change. The



GENERAL OFFICES, G. T. R., MONTREAL.

preparation does good; it stimulates hope and assures of progress.

Thus, pass from general massage to passive movements, then to resistive movements, and then to gentle gymnastics later. This to correspond with the three steps: sit up, sit out, walk out. The harmful effects of rest are overcome largely by mechanical means —massage and electricity.

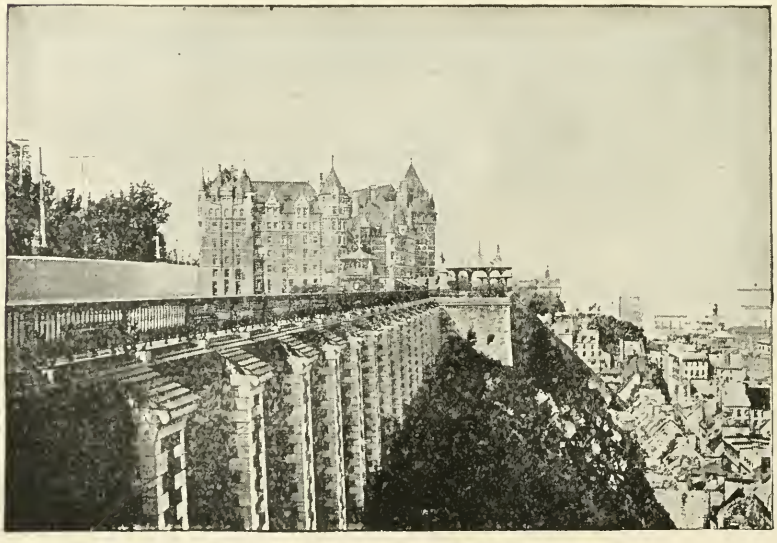
Massage supplies the muscles with exercise; they do not lose tone during rest; the circulation does not become torpid, and thus no storing up of the products of wear and tear throughout the muscular system takes place. It raises the surface temperature, increases the bodily secretions at the time—especially the urine, in cases where abdomen is thoroughly treated—slows and steadies the pulse and, as I have found, substantiating results made known long ago, increases the hemoglobin and the red count.

Besides this, it soothes pain in many cases and will almost always induce sleep, and, moreover, acts, as does electricity, as a strong psychic influence, assuring the patient that much is being done for his benefit.

Of drugs, besides the bromides and the tonics before mentioned, I have had little or no experience and can say nothing. We used asafetida, the valerianalis com. indica, belladonna, tr. opium, etc.—not morphia—but got no results to form conclusions from, probably because the cases experimented upon were suffering from a true psychosis rather than a functional condition. Psychical treatment was never tried deliberately, and so, from personal observation, I know nothing of the results from suggestion direct, or of such rather risky therapeutical adjuvants as hypnotism.

In conclusion, much depends upon the man himself, as may be gathered from what has already been said. No method is perfect in every man's hands, and no man can hope to treat all classes of cases. One using his methods may succeed brilliantly where he fails. Yet any one of us, using as true a blend as we may of natural demonstrated, but not demonstrative sympathy, with firmness and common sense and good judgment, may do much to help and to cure this very deserving class of patient.

PLACE VIGER HOTEL, MONTREAL, CANADIAN PACIFIC RAILWAY.



CHATEAU FRONTENAC, QUEBEC, AND PART OF LOWER TOWN, C.P.R.

THE NECESSITY FOR ISOLATION HOSPITALS FOR SCARLET FEVER, DIPHTHERIA AND MEASLES.

BY J. J. CASSIDY, M.D., TORONTO.

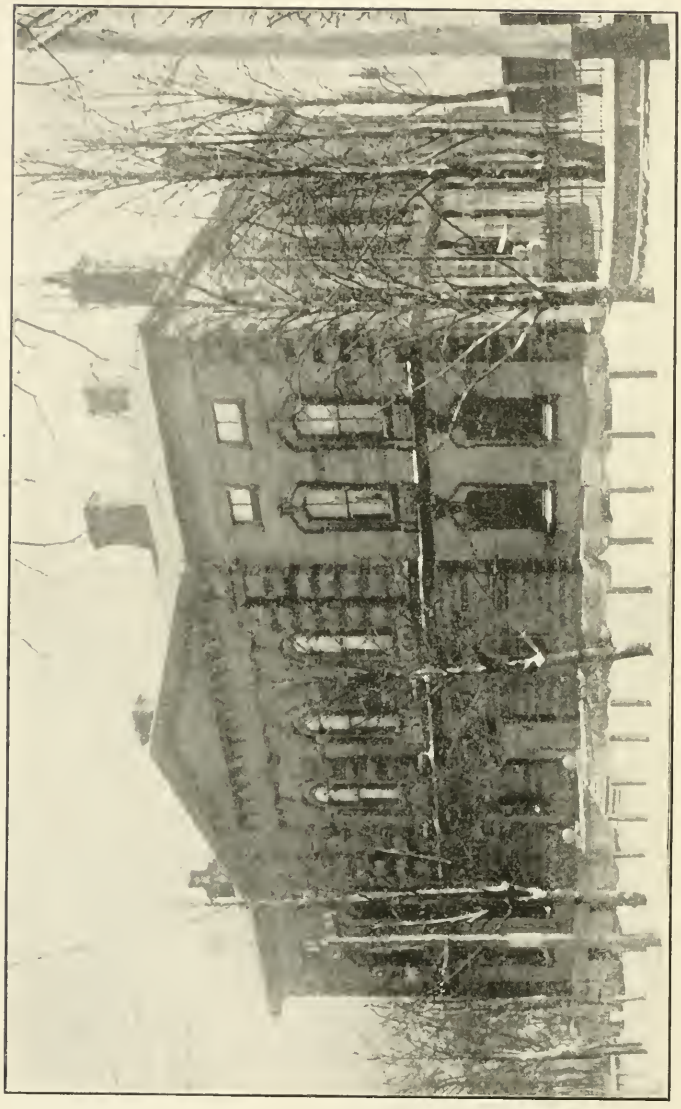
To begin at the beginning, the primary object of isolation and disinfection, in the treatment of infectious diseases, such as scarlet fever, diphtheria and measles, is to prevent the extension of infection to the well.

While keeping this object in view, no effort should be spared by a sanitary authority to promote the hygienic interests of the isolated patients and to assist in their recovery.

Though not looked on with so much terror as smallpox, scarlet fever is dangerous to life. From the Canadian decennial census of 1901 we learn that during that year 1,101 deaths were caused in Canada by scarlet fever, whereas the mortality from variola and varioloid was only 45.

The poison of scarlet fever is due to a special organism, as yet undetected. It is of great vitality and retains its infecting power for at least one year. The bearer of the contagium is in all probability the desquamated epithelium of the infected persons, the disease being communicable to the greatest degree during desquamation. The poison is disseminated by the scaly particles in the air, on clothes, and other fomites, in food, such as milk, etc. Usually infection takes place through the respiratory tract, but may be introduced through the digestive tract. The required isolation in such a disease is best carried out at a special hospital. In the absence of such an hospital, isolation is enforced, if at all, at the patient's home. Room and house quarantine are usually difficult or impossible of enforcement, especially among the poor, and the foci of infection are often indefinitely increased by the visits of friends and neighbors. In an isolation hospital, however, where egress and ingress are under control, where facilities for the disinfection of discharges are at hand, the danger of scarlet fever spreading is reduced to a minimum. It should be borne in mind, also, that if a case of scarlet fever is treated in a private house, adults living therein, though they rarely take the disease themselves, may convey it to others, after but a momentary exposure. Besides, children or teachers living in a house where a case of scarlet fever is treated are by law debarred from attending school. Again, the isolation of a scarlet fever patient in a private house may be complete enough, but the isolation of the other members of a family of young children, or even of adults, is difficult and productive of hardships, especially for wage-earners. When treated in private houses scarlet fever causes more trouble and anxiety to health authorities than small-

* Read at the annual meeting of the Ontario Medical Association.



PROVINCIAL BUILDING, HALIFAX, N. S.

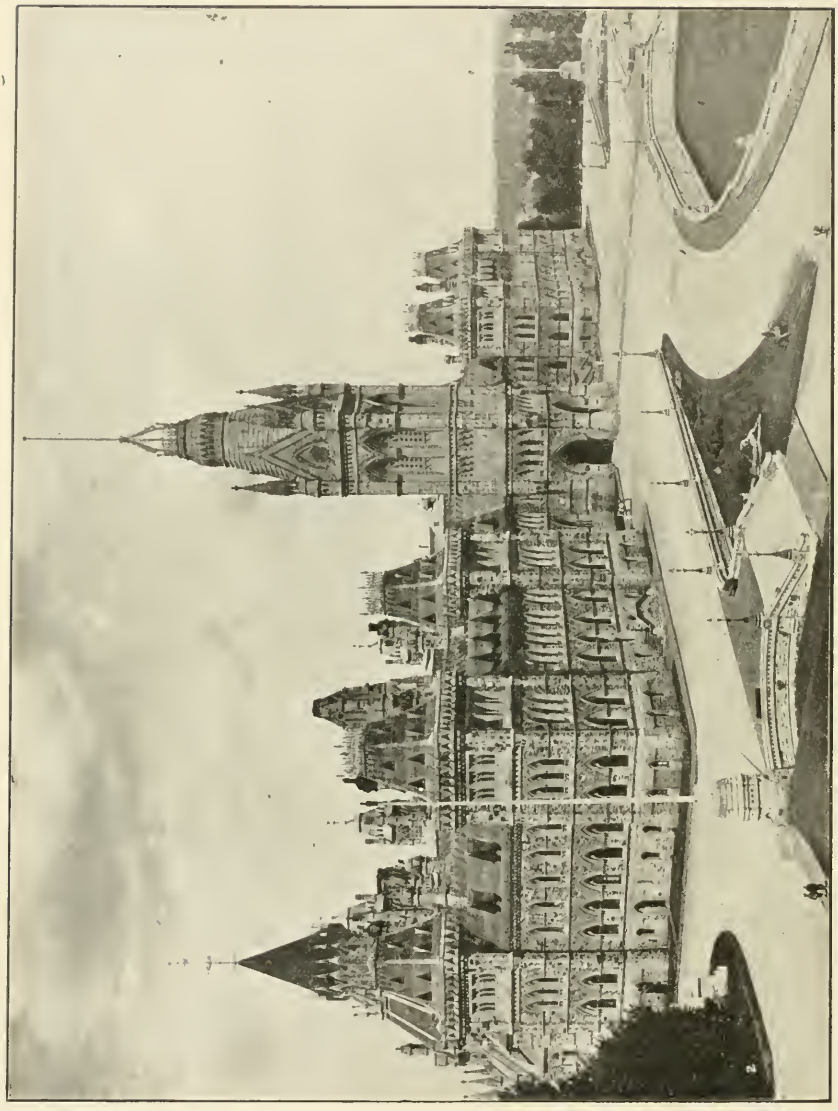
pox. Should a case of smallpox appear in a private house, if the other members of the family have recently undergone successful vaccination, if their clothing and other effects are disinfected and they are kept separate from the patient, little or no danger to them or others is apprehended. Good hygiene, of course, requires that smallpox suspects should be kept under observation for a time equal to the period of incubation. As there is no vaccination against scarlet fever, efforts to protect persons not immune to it involve excessively minute precautions, difficult to enforce and liable to be defeated. Hence the obvious conclusion that, in the interest of all parties, scarlet fever should be treated in an isolation hospital.

Diphtheria is transmitted chiefly by direct contact between an infected person having diphtheria bacilli and an uninfected, well person. Childhood (between three and six), defective drainage and catarrhal conditions of the throat, are predisposing factors. The poison is contained in the secretions of the throat or nose and may be transmitted through the atmosphere or fomites. The exciting cause is the Klebs-Lœfler bacillus, which is found only in the membranous exudation. The constitutional symptoms result from the poisons generated by the bacillus. The statistics of the Canadian decennial census of 1901 show that 1,224 deaths from diphtheria and croup, 1,982 from diphtheria, or a total mortality from this disease of 3,206, occurred in Canada.

Complete isolation of every case of diphtheria should be maintained until two consecutive cultures from the throat and nose have not shown the presence of diphtheria bacilli. The isolation of the patient should be continued for at least six weeks from the day the disease began. Children or teachers in the same house or apartment must not attend school till they have received a certificate from the M. H. O., which will not be issued before the termination of the case by recovery, death or removal to an isolation hospital. Obviously, therefore, the removal of the patient to an isolation hospital eliminates a possible source of infection to the other inmates of an infected house or apartment, and relieves them from a good deal of disquieting observation.

While these severe rules are generally maintained by careful health officers, they have been considerably modified in some quarters, since the introduction of antitoxin into the curative and immunizing treatment of diphtheria, and here I refer more particularly to the use of antitoxin as an immunizing agent. I shall not refer to its use as a curative agent in diphtheria, except to say that the universal experience of the advanced physicians of the world is that antitoxin should be used as soon as there is clinical evidence of diphtheria.

In reference to the influence and restrictive power of immunizing doses of antitoxin, the best evidence I have read recently is published in *The Ohio Sanitary Bulletin*, January-March, 1907, in which there is a report of the proceedings of the First Annual



PARLIAMENT BUILDINGS, OTTAWA.

Conference of the State Board of Health of Ohio, with representatives of municipal Boards of Health of cities and towns having over 3,000 inhabitants, held at Columbus, Ohio, Jan. 24, 1907. Dr. Samuel E. Allen, M.H.O., Cincinatti, said on this subject: "I am very firmly impressed that the best way to get along with diphtheria is to use plenty of antitoxin. I think it is better than isolation, better than hospitals, and better than anything else, and I am very strongly in favor of immunizing." He also said: "Our quarantine regulations are very imperfect. I often feel, after all our trouble and all our care in quarantine and in keeping children out of school and watching things, that we do very little good, anyhow, because, when we get an epidemic of diphtheria it sweeps over a town and, of course, when there is no epidemic, we think we are doing a great deal; but the epidemic comes in spite of all our watchfulness and care, and we get a large number of cases. So far as having an epidemic of diphtheria is concerned, I believe that the immunizing way of getting at it would be far superior to any method we can pursue as to quarantine regulations."

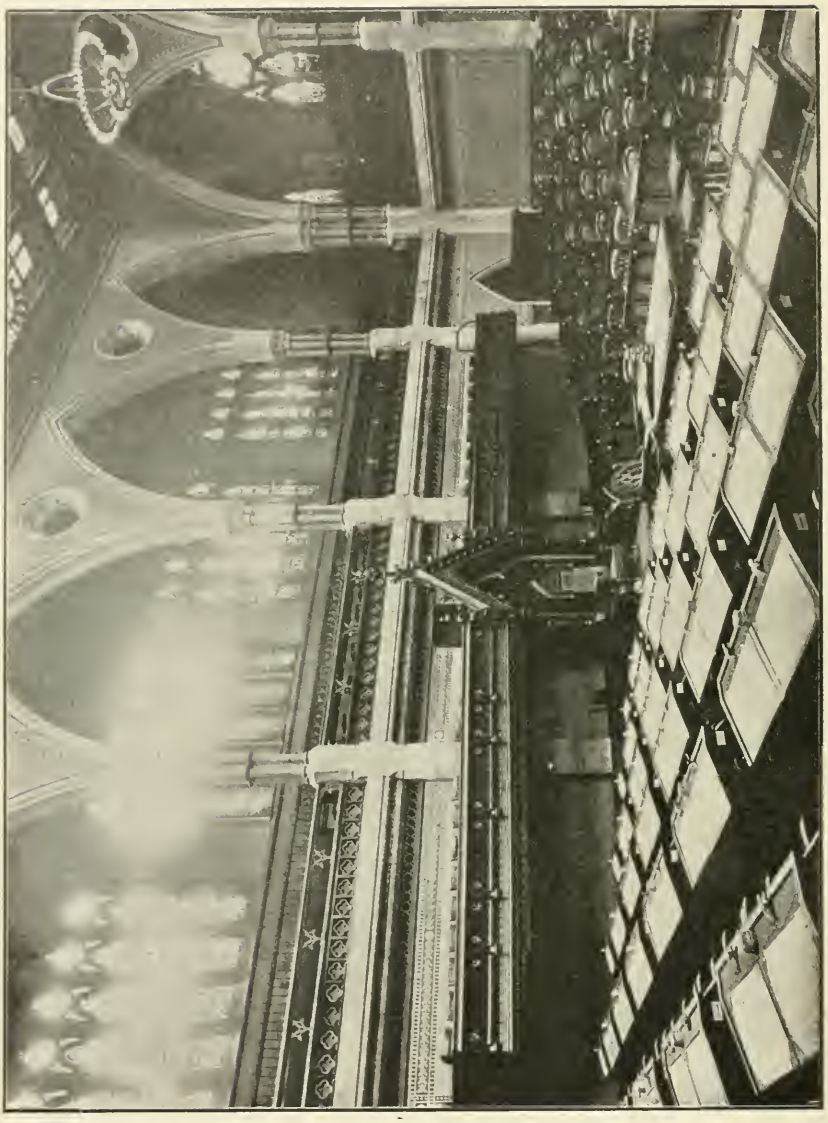
Dr. Blair, M.H.O., Mount Vernon, Ohio, said that "he had used antitoxin for immunizing purposes in fifty cases and none of them contracted the disease." He added: "I think it is just as important to use antitoxin for immunizing purposes as it is to vaccinate for smallpox."

Dr. Chapman, Toledo, Ohio, said: "I believe they will immunize against diphtheria more readily than they will allow you to vaccinate. This seems strange, but they are afraid of diphtheria." And again: "We do not know the cases that would have diphtheria, if they were not immunized, and it would be better to err in being too cautious; there is no harm comes of it; the only objection is as to expense."

Dr. J. G. Reinhart, Toledo, said: "I believe that protection could be secured from diphtheria more readily by using an immunizing agent than by quarantine and separation. . . . I pay very little attention to trying to regulate the household after using antotoxin as an immunizing agent."

Dr. E. J. Schwartz, Salem, Ohio, said: "It is not necessary to give immunizing doses to all the families whenever there is a quarantine case. There are some places where we can separate the family from the patient; but where we find squalor and filth and families closely confined, it is necessary to immunize, and it has been our experience that it has been cheaper."

Dr. David Sisson, Middleport, Ohio, said: "I am certainly in favor of the immunizing doses of one thousand units. I believe that it is sufficient in all cases as an immunizing dose. I believe five hundred units is recommended, but I would not like to trust to five hundred units where there was an epidemic. Where I used it in my own town I did not have to repeat the dose, either curative or immunizing; none took it that had the immunizing dose and none did that had the curative dose, and we



INTERIOR HOUSE OF COMMONS, PARLIAMENT BUILDINGS, OTTAWA.

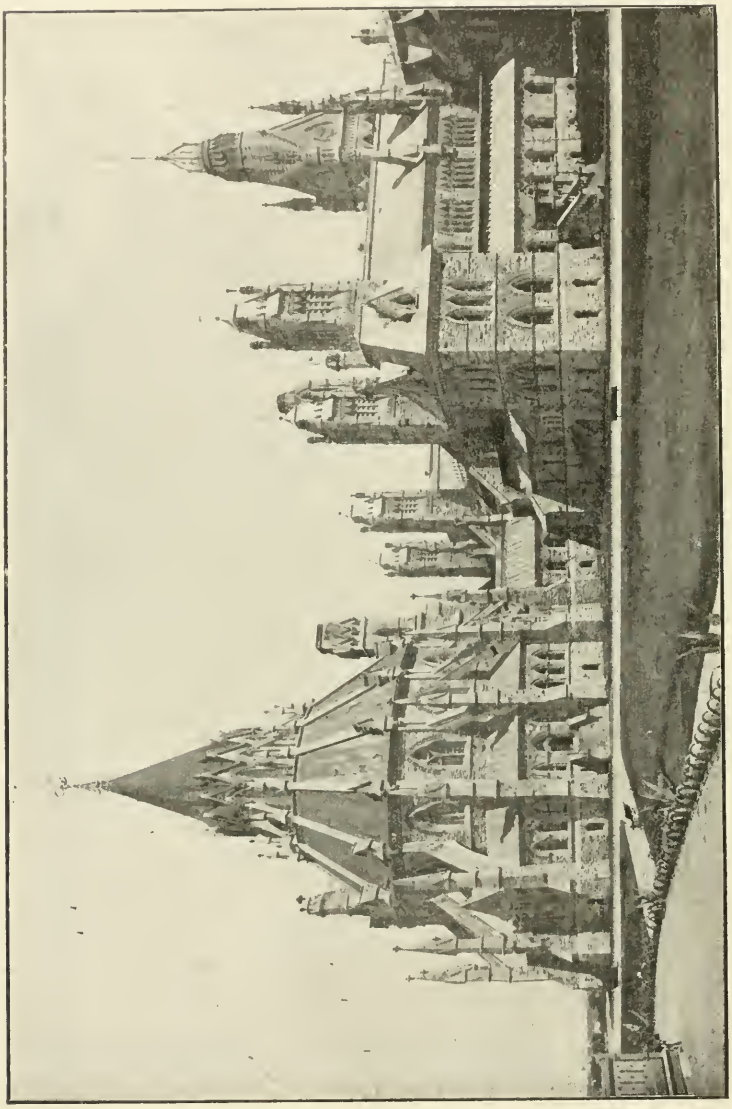
certainly were very successful, either on account of the antitoxin or the mildness of the epidemic."

I have quoted the very words of the Medical Health Officers of Ohio, in order to show the great confidence they feel in the use of immunizing doses of antitoxin, as repressive of diphtheria, and the fact that they prefer the new agent, both for effectiveness and cheapness, to the old-fashioned system of quarantine. The plan adopted by the State Board of Health of Ohio for distributing antitoxin to local Boards is worthy of notice. A large ice chest in the office of the State Board of Health, at Columbus, is kept filled with antitoxin in 1,000 units for immunizing purposes, and three, four and five thousand units for curative purposes. The State Board of Health sends, on the demand of a local Board of Health, antitoxin, with a statement of the amount ordered, and also a statement to the producer who supplies the antitoxin, and he collects the amount from the local Board of Health. Dr. Probst, Secretary of the Ohio State Board of Health, said: "In four months, 1,379 packages, representing 2,640,000 units, were distributed. There were 126 used for immunizing purposes, and in the 126 there were no cases developed."

Dr. Parks who has charge of the antitoxin laboratories at New York, reports that antitoxin was used for immunizing purposes in New York in 1,043 cases, and only three cases developed diphtheria of that number, with no deaths. The Chicago Health Department, reporting upon 1,061 immunizing doses that had been issued by them, stated that of that number only forty-six had contracted diphtheria, and not one of these cases died."

Dr. Probst, Secretary of the State Board of Health, Ohio, said: "We believe that the use of antitoxin in immunizing doses is a very important way, indeed, to control diphtheria. It is more important, in a way, than quarantine, and we think that in every case where diphtheria appears in a family of children and it is impossible to enforce successful quarantine, the best way is to immediately give immunizing doses of antitoxin to all the members of the family.

Measles is a highly contagious disease, the poison of which may be transmitted through clothing and other fomites. The contagium is apparently associated with the nasal and bronchial secretions of the patient, but it has not been isolated. The infection can be communicated to a non-immune person by an individual sickening with it before the rash has appeared. It is an epidemic disease, but, now and then, sporadic cases occur. One attack is fairly protective, but does not give absolute immunity. As there is no immunizing serum for measles, the preventive treatment consists in isolation and disinfection. Owing to the difficulty experienced in diagnosing measles before the appearance of the rash, unprotected persons may be attacked after exposure to the disease in persons not known to have it. According to the decennial census of 1901, the mortality from measles

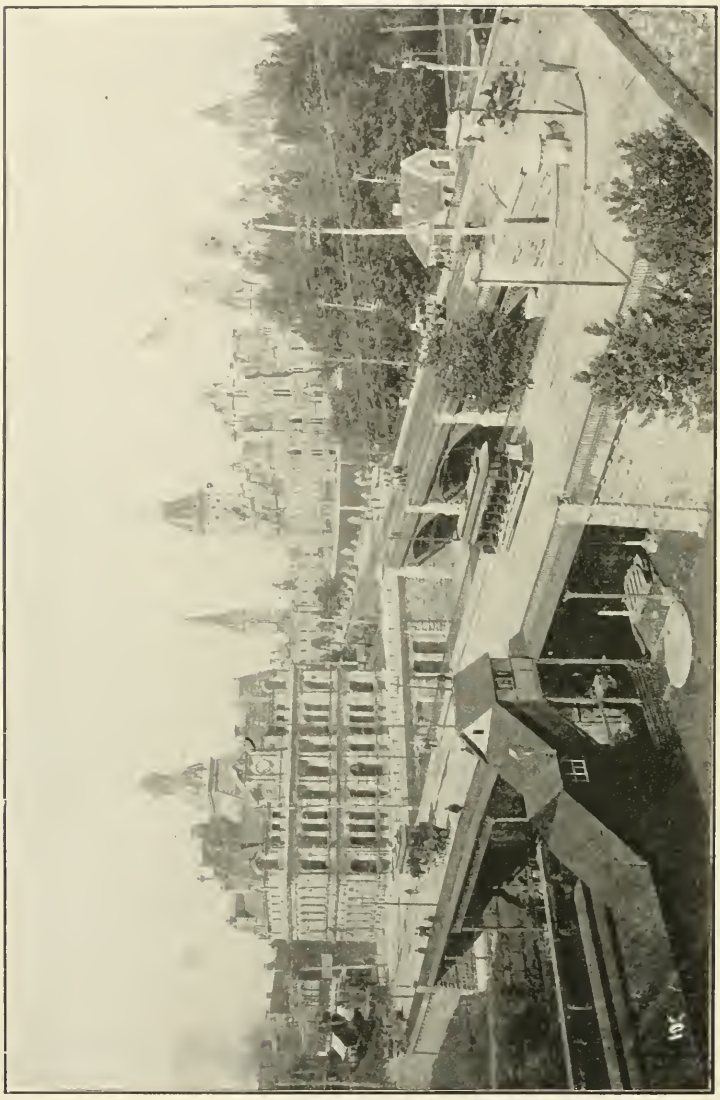


LIBRARY, PARLIAMENT BUILDINGS, OTTAWA.

in Canada was 1,029. The question of isolation will depend a good deal on the severity of the epidemic. Usually isolation is not practised, both children and adults being exposed to the disease in infected centres. Such a lack of isolation is, however, not in keeping with modern ideas, and a suitable pavilion for measles should form part of an up-to-date isolation hospital. I think that the majority of patients suffering from scarlet fever, diphtheria and measles would receive more careful treatment in a municipal isolation hospital, or a private isolation hospital, than at home. Moreover, the regular use of such hospitals would reduce the number of contagious foci in a municipality and would hereby shorten the duration of an epidemic of any one of the diseases mentioned.

The number of isolation hospitals in Ontario is small. At Toronto there is an excellent isolation hospital, in which there is accommodation for eighty scarlet fever cases and eighty diphtheria cases. No accommodation for measles. At Ottawa there is an isolation hospital in which accommodation is provided for cases of scarlet fever and diphtheria, but there is no accommodation for measles. The General Hospital, Kingston, provides isolation in a wing, which is, however, connected with the main building. I do not know of any other isolation hospital in Ontario for the diseases mentioned above.

In the city of Montreal two modern isolation hospitals have been recently established, the St. Paul's Hospital and the Alexandra Hospital. The St. Paul's Hospital, which is a special department of the Notre Dame Hospital, is in the eastern part of Montreal, and the Alexandra Hospital, which belongs to a private corporation, representing the Montreal General Hospital, the Royal Victoria Hospital, and the Western Hospital, is in the western part of that city. The following description of St. Paul's Hospital is given in the Annual Report of the Board of Health of the Province of Quebec, 1905-1906, p. 41: "St. Paul's Hospital is situated on Maisonneuve, Sherbrooke and Plessis Streets. The latter street separates it from the site on which the new Notre Dame Hospital is to be erected. The hospital consists of a building for the administration, of three pavilions, and of the ambulance shed. The hospital has accommodation for one hundred patients; a first pavilion for measles cases, a second for diphtheria, a third for scarlet fever cases. There is no communication between the three pavilions, each of which has its own staff, its own separate furniture, its own linen, etc. When the staff of one pavilion is on duty, it has no relations with that of the others, nor with the outside. Isolation for each disease is complete and distinct. On the first story of each pavilion there is only one door for egress and ingress. That door opens into a sort of vestibule, completely isolated from the remainder of the pavilion, and the cloak rooms and disinfecting rooms open into the vestibule. There the physician puts on and removes the rubber cloth coat he wears during his visit. There the nurses going off



POST OFFICE AND SAPPERS' BRIDGE, OTTAWA.

duty temporarily wash and disinfect themselves, leaving the outer garment they wear while with the sick, and put on other garments when necessary. Previous to their destruction, the sweepings, rubbish and soiled dressings are left at the door. A man appointed for the purpose removes the refuse and rubbish and burns them in a special room in the ambulance shed.

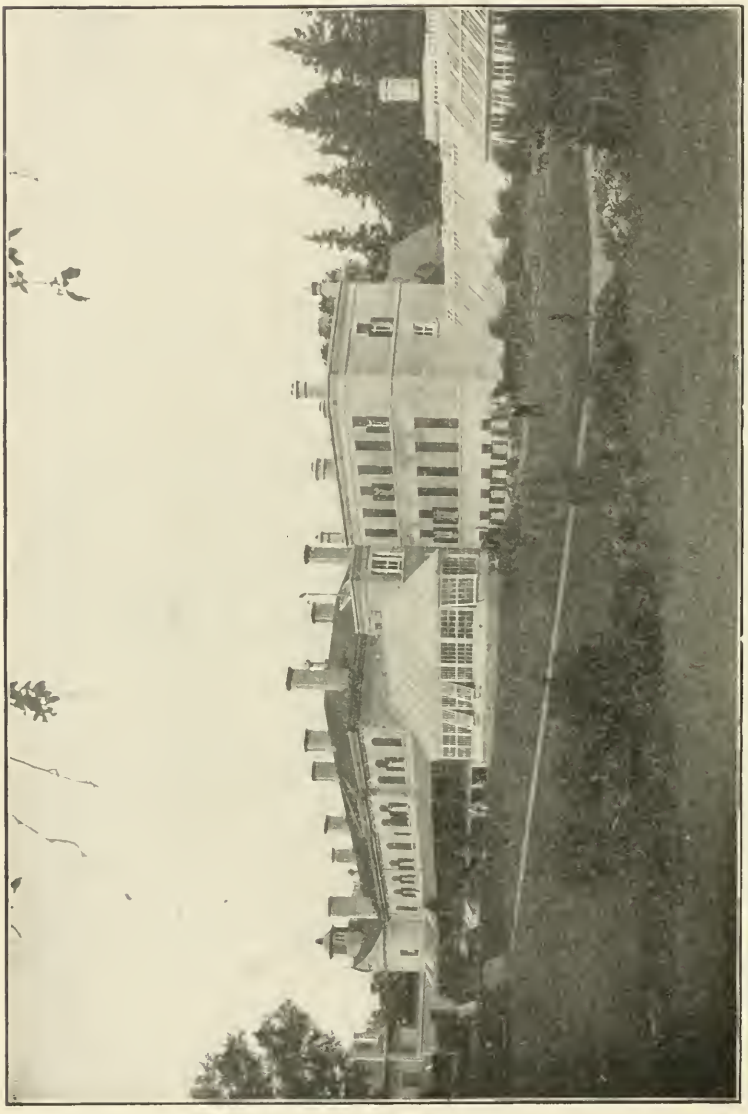
The St. Paul's Hospital possesses a special feature. The three pavilions communicate by passages in the basement with the administration building and with the general hospital. The building for the latter forms part of the plan, drawn up for the new Notre Dame Hospital, which will shortly be erected. Of course, the basement passages are like a vestibule entrance, isolated from the pavilions themselves. Those who go through these passages, either for the purpose of bringing provisions or of bringing back the washed articles or linen, have no communication with the upper stories. The plates, dishes, cups, etc., are disinfected in the pavilions themselves; the soiled linen falls through shafts into special rooms in the basement, where it is disinfected before being sent to the laundry. In the basement also are the heating pipes, the light and telephone wires, and the electric ventilating fans.

Everything in connection with the laying out of the pavilions is arranged with a view to cleaning and disinfection. The corners of the walls, the angles of the ceilings, are rounded; the sills of the window frames are on a steep slope; the floors are of hardwood; the surfaces (walls and ceilings) may either be washed or whitewashed. As far as possible, nothing but metal, glass or porcelain enters into the construction of the furniture. There is no furniture beyond what is strictly necessary in the rooms and wards. Finally the system of heating that has been adopted requires no coils.

To avoid even a remote danger of contamination, the hospital sewage runs into a large disinfecting cesspool, where it is deprived of its virulence, before flowing into the city sewers.

The heating and ventilation are effected by a combined system. Heated air, introduced by ventilation, serves at the same time to maintain the temperature of the apartments at the required degree. The air in the rooms is renewed 8 or 10 times an hour. The air from outside is screened, purified by passing through water, heated in winter to the proper temperature, and is then driven by electric fans through special shafts to the rooms and wards, where it displaces the vitiated air. The pure air shafts and the vitiated air shafts are sunk in the walls and are controlled by easily reached regulators.

Some rooms have automatic regulators which allow of the temperature being maintained at the required degree, while another appliance gives the necessary degree of humidity to the atmosphere, an important point in hospitals where eruptive fevers are treated, in which the respiratory organs may be affected. The system of ventilation is that known as the plenum system.



GOVERNOR-GENERAL'S RESIDENCE, RIDEAU HALL, OTTAWA.

The Alexandra Hospital, Montreal, is, if anything, more elaborate in structure and appointments than the St. Paul's Hospital. In addition to the administration building there is a scarlet fever pavilion, the largest of the group, 92 x 112 feet in size, for which an entrance by the corridors and an entrance porch from the grounds are provided. Before entering the pavilion proper an examination room and a discharge room are noted, so that a patient on entering is examined by the physician in charge, and if the disease he is suffering from has been diagnosed properly the patient is passed on to the ward or private room to which he is assigned.

Both the diphtheria and measles pavilions are similar to the scarlet fever one in accommodation, but slightly smaller, being 124 x 40 feet in size. As these diseases do not require the same length of time for isolation smaller buildings will answer.

The erysipelas pavilion is as yet held in abeyance, but will consist of a one-storied structure 30 x 62 feet in size.

The observation building is also held in abeyance for the present, but will be similar in layout to the erysipelas pavilion and will be used for the treatment of mixed, doubtful or undetermined cases. In the meantime, a temporary observation pavilion has been provided to the west of the scarlet fever building.

As to the construction of the buildings, terra cotta, steel, concrete, brick and stone are the only structural materials that have entered into them, and every provision is made to prevent lodgment of infectious material. With this in view wooden flooring has been eliminated and a cement floor covering has been used that is free from cracks or seams; this is rounded next the walls and turns up on the same to form the baseboard. All walls and ceilings are in hard plaster, painted and enamelled white, the only hardwood used being the sashes and doors, and these latter are of veneered hardwood without panels or mouldings.

In the ventilation and heating of the Alexandra Isolation Hospital, a supply of fresh, screened air, heated in winter, is provided at each bed, while there is also at each bed an open aspirating duct ensuring an updraught in both winter and summer, as these will be in operation even when the heat is turned off from each room. Boyle's ventilators cap each duct.

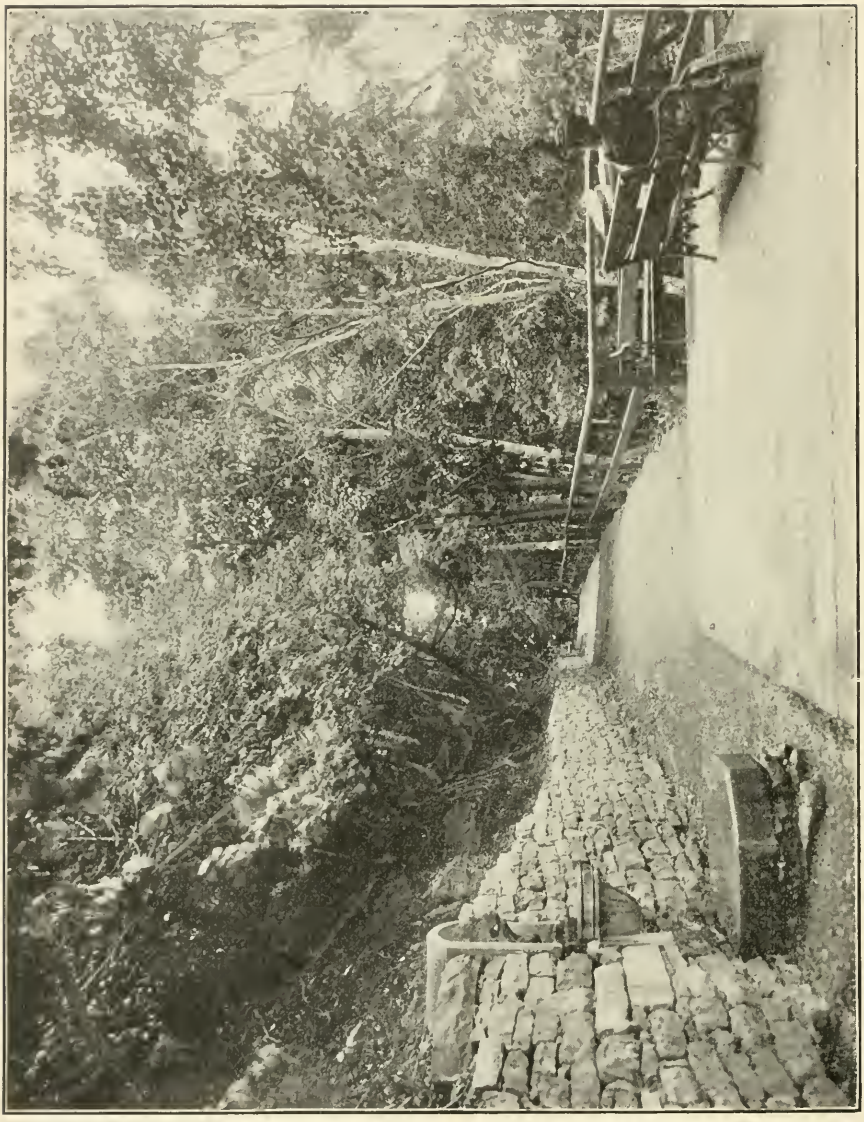
My conclusions are:

(1) A public isolation hospital, however small, should be established in every urban municipality in Ontario. Private isolation hospitals for the rich should be encouraged.

(2) Separate pavilions should be provided in isolation hospitals for cases of scarlet fever, diphtheria and measles.

(3) There should be an observation room in each pavilion for doubtful or undetermined cases.

(4) In designing isolation hospitals, architects should provide simple structures, abundantly supplied with light and air, suitable for the isolation of the infected sick, while in every hygienic way assisting in promoting their recovery.



LOVERS' WALK, OTTAWA.

Discussion.

Dr. J. N. E. Brown, in discussing Dr. Cassidy's paper, held that diphtheria, scarlet fever, measles and whooping cough should be treated preferably each in an isolated pavilion of its own. Another pavilion might be built for erysipelas, mumps and chickenpox—each having an isolated flat.

The two requisites in the handling of these diseases were isolation and disinfection. These could not be secured in the crowded homes of the poor, nor, conveniently, in the houses of the average well-to-do citizen. Such cases could not be treated in boarding houses, boarding schools, orphan homes, and the like, unless separate isolation buildings are provided and equipped as hospitals.

The new Jefferson Medical College Hospital, Philadelphia, shows how provision could be made in a large block hospital for any suspected case of contagious disease which may be brought to it or for any case developing in the hospital.

Each of the top storeys, got at from outside elevators which would go clean up above the roof, would have a complete suite of wards, rooms and kitchens and might be to all intents and purposes a separate little isolation hospital in itself.

In smaller towns one building with five separate and isolated flats of wards and rooms, each flat having its own exits to out-of-doors, each with a separate menage, could be made to accommodate these contagious cases.

But, of course, the ideal plan would be to have the separate pavilions.

The wards for these cases should be small, none holding more than four patients, and a number of them with single beds only. This would permit of the segregation of the early cases from advanced, the simple from the complicated and the noisy from the quiet.

With vaccination, isolation and disinfection, smallpox, from being a most common disease, has almost disappeared. Diphtheria with immunization and treatment by antitoxin, isolation and disinfection is losing its terrors. With the discovery of the microbe of measles, isolation, and disinfection, measles will become as rare ass mallpox. And so with these other diseases. But until the causative germ is found let us have the isolation and disinfection.

After some further discussion,

Dr. Bruce Smith moved, seconded by Dr. ———, that in the opinion of the meeting, municipal authorities should erect and maintain their own isolation hospitals, instead of utilizing existing general hospitals for the treatment of cases of scarlet fever, diphtheria and measles. Carried.

FROM PARLIAMENT HILL, LOOKING WEST, OTTAWA.

THE X-RAYS IN DISEASES OF THE SKIN.

BY D. KING SMITH, M.B., TORONTO.

The wonderful advances made in radiography during the past few years are fully appreciated by the medical profession, so that now radiography is recognized as a great aid in certain branches of surgery.

On the other hand, radiotherapy seems to occupy a very doubtful position, owing to the fact that on its introduction many believed that it was a cure for all diseases.

The many claims of the wonderful action of the X-rays in diseases of the skin have not stood the test of time, nevertheless we must to-day acknowledge that the X-rays is a very powerful therapeutic agent in dermatology.

Until the physician and the radiotherapist work hand in hand it will be impossible to arrive at the exact status of the X-rays in diseases of the skin. The majority of dermatologists are not experienced in the technique of the working of the machine, hence no doubt unfavorable results have been obtained, while the radiotherapist, on the other hand, may possibly not recognize the true character of the lesion.

The object of this paper is to give briefly the commonest diseases of the skin in which the X-rays has proved beneficial.

For convenience of description I will discuss its action under different classes, such as

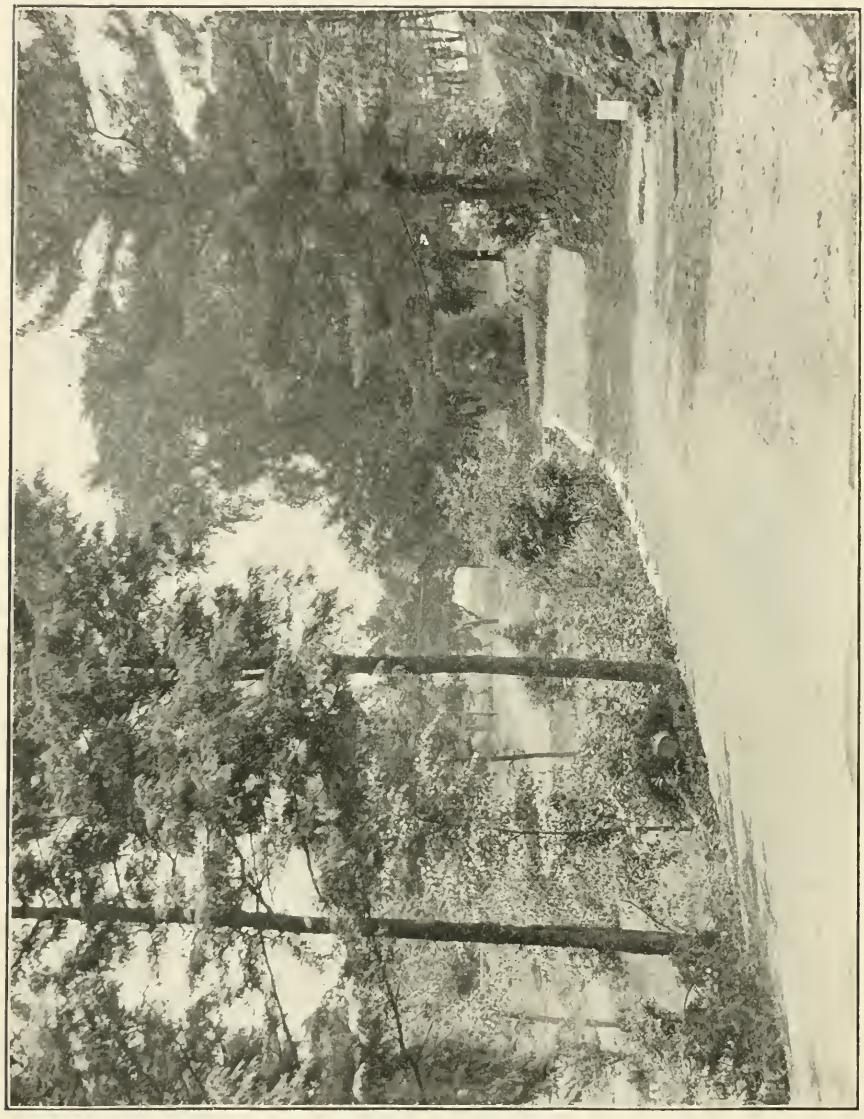
The X-Rays as an Epilating Agent.

In diseases where depilation is indicated the X-rays is very useful, such as in ring-worm of the scalp, favus, some forms of folliculitis, sycosis barbae and coccogenic; in many of these conditions it would not be well to use the rays in every case, but in rebellious ones the use of the rays would be of much service.

In hypertrichosis, at first, the rays was thought to be the ideal treatment; for depilation can be obtained in the majority of cases readily; in a month or two, however, regrowth takes place. Some workers claim that on the appearance of the regrowth short exposures will again depilate. At the present day the rays is seldom used in this condition, as the dangers of a dermatitis, atrophy of the skin or permanent telangectases are so great that the condition would not warrant the use of the rays.

Resolvent Action of the X-Rays on New Growths.

Keloid.—Many successes in the treatment of this condition have been reported. As a rule, radiotherapy should be reserved for



ROCKLIFF PARK, NEAR OTTAWA.

the treatment of large keloids, which are occasionally met with. The exposures necessary are many, and the treatment is prolonged, so that in small keloids some other form of treatment is indicated.

Mycosis Fungoides.—Crocker, Hyde and others have spoken highly of the rays in this disease. Before the introduction of the X-rays no treatment had any effect. During the past few years some brilliant results have been obtained. The first thing noticed is the lessening of the pruritis, which completely disappears in many cases, then the tumors and infiltration gradually disappear.

The rays is worthy a trial in all cases of this serious disease.

Epithelioma and Rodent Ulcer.

I cannot do better than quote A. R. Robinson, of New York, on the treatment of cutaneous cancer by the X-rays:

"It is a great error to maintain that with the X-rays alone all cases of cancer of the skin can be cured. This is not even true of cancer seen in a very early stage. It is also an error to hold that in all such cases where it could effect a cure it is the best agent to be employed. I believe its exclusive use should be limited to a very few cases out of all those that come under observation, such as those of rodent ulcer and some cases of superficial prickle-celled epithelioma.

In the majority of cases of superficial epitheliomata a combination of treatments, as by caustics and by the X-rays give the best results.

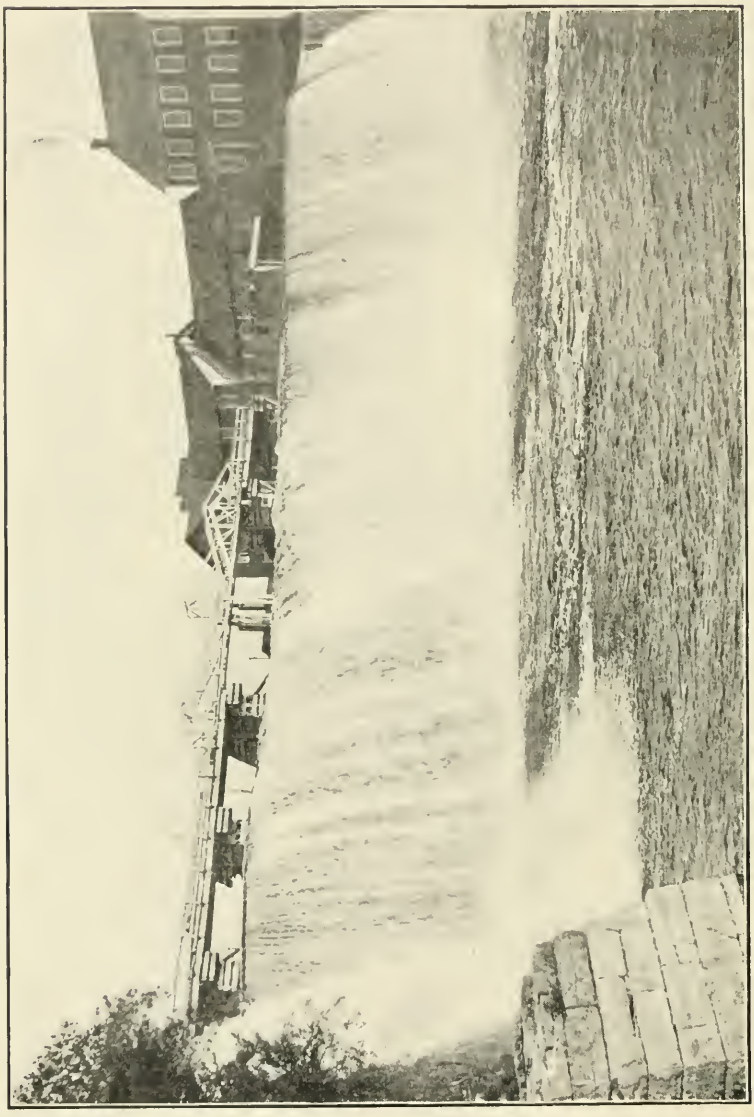
Hard, firm, elevated, epithelial margins must be made more vulnerable by injuring agents, such as caustics, before the X-rays are applied. In the deep nodular forms, especially of the lip, I do not think the X-rays should be relied upon, for whilst it may have benefited, or even cured some cases, it has in others hastened the growth of the cancer, and much time, valuable to the patient, has thus been lost.

Unless a very satisfactory action is shown after a few treatments, the use of the X-rays should be discontinued and other methods should be employed.

The application of the X-rays—twenty, forty, eighty or even more times—for the removal of a cancer that could have been removed equally well in a few minutes or a few hours, according to the condition of the case and the method employed, is a wrong to the patient.

"The X-rays is a valuable agent for nearly all superficial epitheliomata when used along with other treatment."

In cancers that have invaded the skin, and ulceration has taken place, the X-rays often relieves the pain, and, therefore, might be employed with benefit. In such cases as cancer of breast after



RIDEAU FALLS, OTTAWA.

removal and recurrence follows, good results have sometimes followed the action of the rays.

Sarcoma.—Observers are far from being agreed as to the success of the treatment by the rays; the same amount of success has not been met with as in epithelioma.

Versucae and Cutaneous Horns.—There is no doubt that radiotherapy has a destructive action on certain forms of warts; as other methods are successful the X-rays has not been used extensively.

Pruriginous Dermatoses.

The diseases under this heading are all characterized by the common symptom of pruritus. In many of these diseases the pruritus seems to be the chief symptom. It may be the only symptom, or be accompanied by a local lesion of the skin. The X-rays may act simply on the pruritis, or it may influence the lesions of the skin also.

One of the most marked and indisputable effects of radiotherapy is the rapid diminution and cessation of the pruritus. In some cases the improvement is only temporary.

Anal and vulvar pruritus have been rapidly relieved in many cases by the X-rays. Only in very severe and obstinate cases, after other methods have failed, should we have recourse to radiotherapy.

Various Diseases.

Lupus Vulgaris.—In many cases of lupus vulgaris the X-rays is very beneficial. It is seldom used alone, but along with the Finsen Light.

Cases treated by the Finsen Light, when progress does not seem satisfactory, a change to the rays and then a return to the light have shown marked improvement.

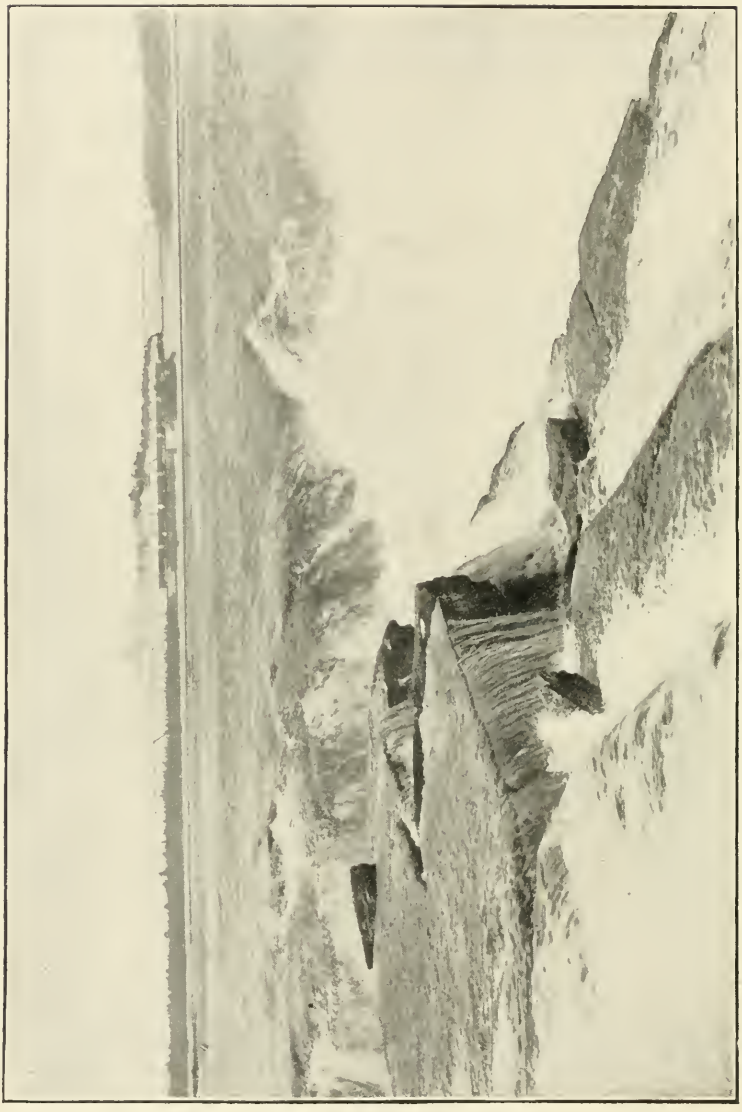
Lupus Erythematosus.—Radiotherapy has not given very encouraging results in the treatment of this disease, and the cures which have been reported are by no means conclusive; far better results have been obtained by the use of the high frequency currents.

To ascertain the opinion of dermatologists regarding the use of the X-rays in acne vulgaris, acne rosacea, psoriasis and eczema, Dr. Andrew Biddle, of Detroit, drafted a communication with the following questions:

1. (*a*) Has the use of Roentgen rays been found beneficial in the treatment of acne, acne resacea, eczema and psoriasis?

(*b*) If so, in what stage or type of the respective disease have the exposures to the rays been found useful.

(*c*) When contraindicated or harmful and when of doubtful value?



CHAUDIERE FALLS, OTTAWA.

2. (*a*) Are the exposures preferred as the routine treatment or are they applied to the rebellious cases only?

(*b*) Is the duration of treatment shortened?

(*c*) Are more permanent results secured?

3. Has the use of the X-rays been as helpful as anticipated, or have they proven more or less disappointing in the treatment of these diseases?

He received replies from many distinguished men in England, Germany, France and United States. Naturally there is a great difference of opinion, yet in some respects the majority seem to agree on certain points. Some are most enthusiastic, while others would dispense with the use of the rays entirely in these diseases. Leslie Roberts (Liverpool) says "that the treatment of acne, rosacea, eczema and psoriasis by X-rays is irrational, improper and utterly inadmissible on scientific grounds," and thinks that those who talk of "curing" these diseases by rays do not clearly understand the nature of the diseases.

The Concensus of Opinion in Acne Vulgaris.—The greatest difference of opinion of the value of the rays was in the treatment of this disease. Only a few advise their use as a routine practice. On the other hand, many have reported great benefit when used in conjunction with other treatment.

Most observers would confine their use to chronic, indurated, sluggish cases, while others have discarded their use entirely.

There is no doubt in many cases of acne vulgaris most favorable results are obtained. Experience has shown that radiotherapy is not of the same curative value in all cases, and in some has but little influence unless pushed beyond the safety limit.

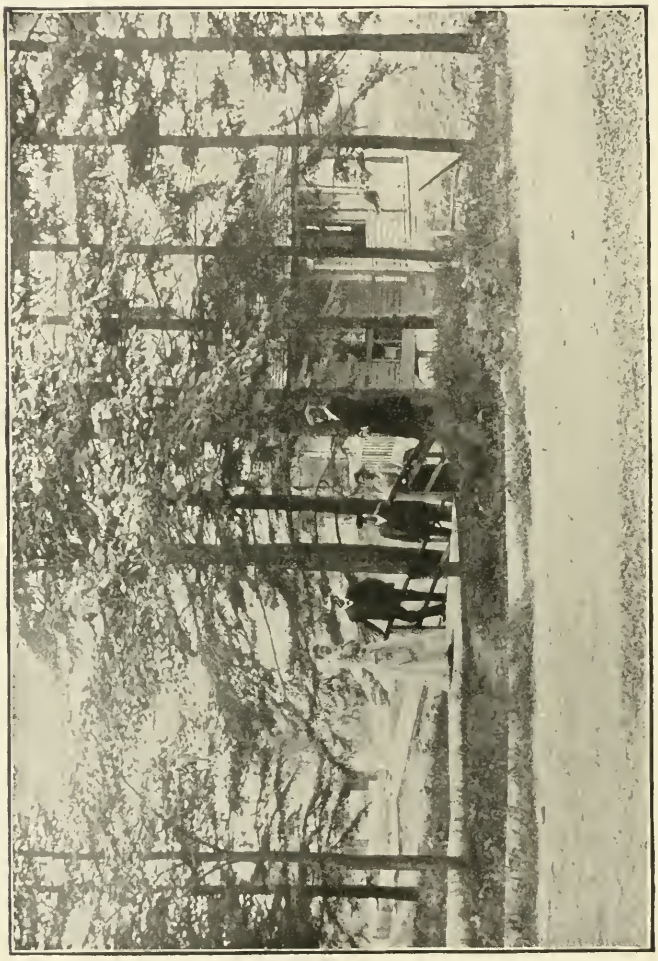
Relaspses are also not uncommon, but not so common as with other methods (opsmic treatment not included?).

When the X-rays are employed it is wise to use them conservatively and with other methods of treatment.

Acne Rosacea.—When there is marked sebaceous glandular inflammation the X-rays probably would be of considerable service, as it seems to have a special action on glandular tissue causing atrophy of the glands. The rays have little effect on the dilated vessels and almost none on the tumefaction. The results in this condition have not been very encouraging, although Galloway, the Whites and a few others report favorably of the X-rays.

Psoriasis.—Typical psoriasis does not usually need radiotherapy for its cure. A temporary cure at all events is generally obtainable by external applications aided by internal medication.

Certain obstinate varieties, however, remain for years with slight alterations, in which every kind of treatment has been tried without benefit. In these cases radiotherapy often gives satisfactory results.



ONE OF THE FAMOUS SPRINGS OF THE CALEDONIA SPRINGS HOTEL, C. P. R.

Relapses are just as frequent as by other methods of treatment. The rays deserve a trial in psoriasis of the nails, as good results have been reported by many.

In psoriasis the X-rays should be reserved for the persistent large infiltrated patches, or to the aggregation of smaller lesions which nothing else seems to affect with any degree of permanency.

Eczema.—This being by far the commonest disease of the skin, the X-rays have been tried in many cases. Here as in other diseases the results obtained vary greatly. Some observers report most brilliant rsults, while others have little to say in favor of the rays.

Many agree that the X-rays are most useful in chronic patches of eczema, especially in the hands and feet. No harmful effects have been observed in the treatment of the chronic condition, but in subacute cases very great care must be used, otherwise much harm may result.

A chronic patch which has resisted ordinary treatment, if given a few exposures, then the original treatment resumed, will sometimes show marked improvement.

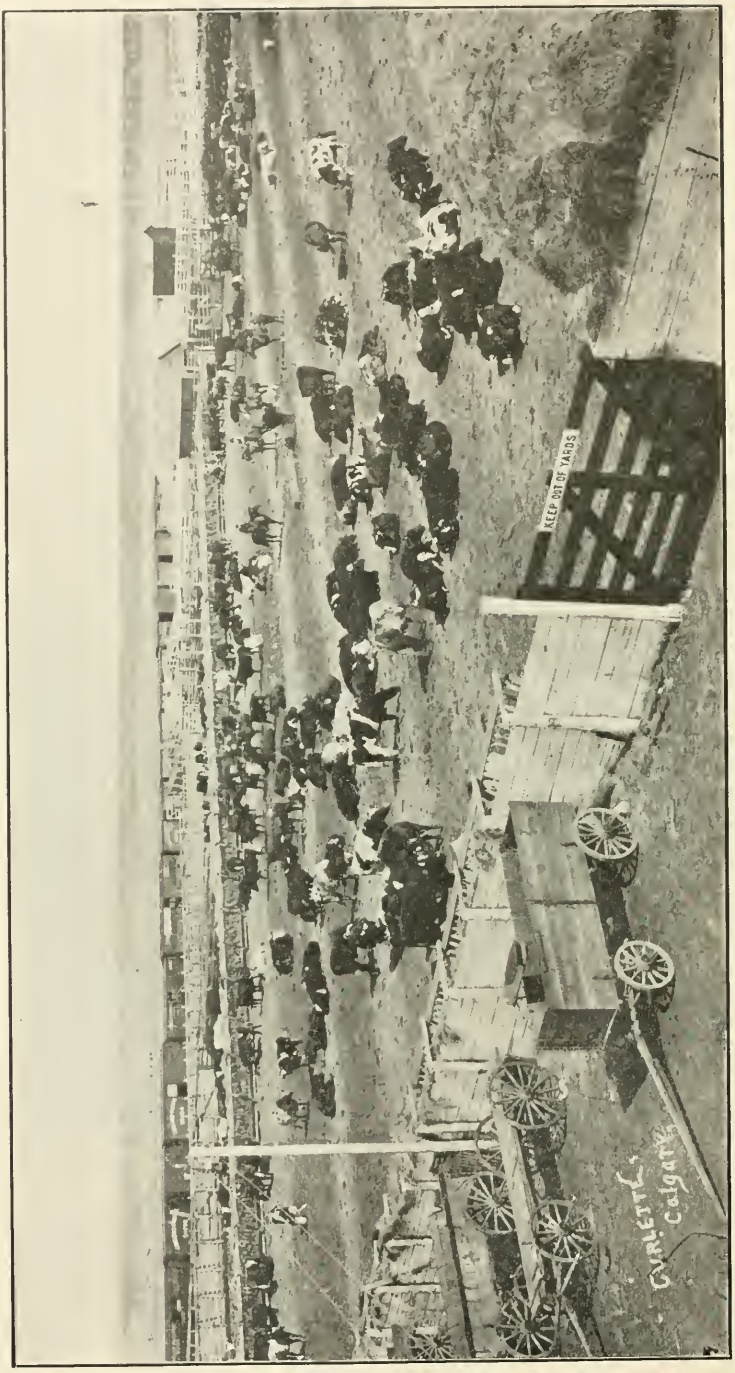
In acute cases when the pruritus is unusually severe and protracted short exposures have been given, the pruritus has been relieved, but the use of the X-rays for such conditions could not be recommended, and its use would only be indicated in very exceptional cases.

Chronic Ulcers.—As the X-rays have a stimulant action on cellular activity it seems indicated in chronic ulcers, especially after all the ordinary treatments have failed. Many observers have reported exceedingly good results.

Naevus.—Radiotherapeutic treatment has been used in the treatment of nevus without much success. Electrolysis in the majority of cases acts with greater certainty.

A few successful results have been reported.

Not until the action of the X-rays is better understood will its standing as a therapeutic agent be possible to estimate. At the present day we are working more or less in the dark, for the exact dosage cannot be regulated, and the fear of a dermatitis, atrophy of the skin, warty growths, permanent telangiectases is continually before us, so that no doubt many a time an under exposure is given where good results might be obtained by a longer one. Again the over-confident worker is liable to risk too much and some bad results follow, so that until exact dosage can be obtained great uncertainty as to the position of the X-rays in dermatology will remain.



STOCK YARDS, CALGARY.

ON THE DIRECT COUNTING OF BACTERIA AND THEIR RECOVERY FROM BLOOD.

BY T. M. WILSON, B.A., M.S., M.D.
Hull Physiological Laboratory of the University of Chicago.

It is often desirable for diagnostic purposes in hospitals and some private laboratories to make bacterial cultures from the blood of patients suspected of certain diseases. For this purpose 5-10 c.c. of blood are taken from a vein, placed in suitable culture media and the culture then examined for bacteria, the whole process taking from 24 to 48 hours. It was suggested by Dr. Capps, of Rush Medical College, that some means might be found for the direct recognition of bacteria in blood. Ordinarily a centrifuged specimen is so dense with corpuscles that to microscopically detect therein a few possible bacteria becomes a hopeless task.

It was thought that by inoculating a definite quantity of blood with a known number of bacteria, the latter might be recovered if a method were employed, somewhat similar to that used in the bacterial examinations of urine. With this end in view I made a series of experiments with streptococcus pyogenes and bacillus typhosus.

A number of clean sterile test tubes were taken, each containing 9 c.c. of sterile filtered distilled water. Into the first test tube was placed 1 c.c. of a 24 hour bouillon culture of streptococcus. This first dilution was thoroughly mixed, and from it 1 c.c. was taken and transferred to a second tube, and the second tube treated in the same way as the first. Thus a third dilution was made from the second and so on. There resulted a series of graduated dilutions, having* 10-1, 10-2, 10-3, 10-4.....10-8 bacteria per unit volume, compared with the original culture. The approximate number present in 5 cu. mm. of the weaker suspension was next investigated. The measurements of such small quantities was done by using the finer graduations of the pipette of an ordinary Thoma-Zeiss Hemocytometer. To facilitate subsequent microscopic examinations a small circle of about 5 mm. diameter was etched on a glass slide. The minute drop taken after carefully shaking the specimen to be examined was then placed and dried, not all at once, but in parts on the slide so as to occupy almost all the space within the etched circle. The diameter of the circular smear was measured by means of the low power of a compound microscope, using as a scale the Thoma-Zeiss rulings. From the value thus obtained the area was calculated. The diameter of the smear in one case was found to be 3 mm., and hence its area was approximately 7 sq. mm. After

*$10^{-1} = \frac{1}{10}$ $10^{-2} = \frac{1}{100}$ etc.

LAKE LOUISE, FROM CHALET PORCH, NEAR LAGGAN, ALBERTA.

this procedure the specimen was stained for five minutes with one drop of fresh filtered Lœffler's methylene blue. By means of an oil immersion lens the bacteria in ten fields within the etched ring were counted. Each field was found to be 7-400 sq. mm., also measured by the Thoma-Zeiss rulings, so that the total area of the smear in this case was 40 times the area actually counted. The number of bacteria present in the smear, or what is the same thing, the number of bacteria in 5 cu. mm. of the blood examined, was therefore 40 times the number counted. In this specimen the average was two groups (each group containing one or more bacteria) per high power field, or 800 per 5 cu. mm.

In making comparisons of this method with the one ordinarily employed the precaution must be taken of counting each group of bacteria in the direct method as one member, since it can form but one colony just as the individual bacterium can do. Satisfactory work in the cultural method requires that not less than one c.c. of bacterial suspension should be added to the melted agar and that the total number of colonies in one plate should not exceed 500.

For these reasons a control was made by plating an agar and counting the colonies, not from the same dilution but from the two next lower series of dilutions. The methods of direct staining were thus found to give approximate results for the number of bacteria per unit volume in the specimen examined. The richer suspensions could, of course, be calculated from the one actually examined.

By means of a sterile hyperdermic needle one c.c. of blood was drawn from the jugular vein of a dog, placed in a sterile centrifuge tube and about 300 streptococci added. The cocci were obtained by taking two cu. mm. of 10-6 suspension, which had been found by previous examination to contain about 150 streptococci per cu. mm. To this was next added 19 c.c. of sterile filtered distilled water and the whole centrifuged at a speed of 70 revolutions per second in a tube of 18 c.m. radius, for about 20 minutes. Then the supernatant fluid was syphoned off by means of a sterile pipette and one c.c. from the bottom of the centrifuge tube was transferred to a narrow tube so that the one c.c. now constituted a column with a length of approximately 10 c.m. This tube was corked as the larger one had been and again centrifuged for five minutes. By means of a finely drawn out pipette a few cu. m.m. from the bottom of the tube containing the ghosts of the red corpuscles, and the bacteria, were placed on a clean slide and the dried smear stained with methylene blue for five minutes, then washed and mounted. Its examination showed the presence of several streptococci.

Another experiment with staphylococcus gave similar results. Having thus shown that the detection of the bacteria was possible, another experiment was made to determine in an approximately quantitative manner what proportion of the bacteria

THE NEW EMPRESS HOTEL, VICTORIA, B. C., C. P. R.

BANFF HOTEL, BOW RIVER AND MOUNT RUNDLE, C.P.R.

added could be recovered. About 300 typhoid bacilli were put in one c.c. of blood and about 100 or 33 per cent. were recovered from a few cu. mm. of the second sediment.

These experiments tend to show that even when comparatively few bacteria are present per cu. mm. they can always be detected by the above means.

At first thought it would appear that the cultural method would be a far surer means of detecting the bacteria when a limited number were present, since in their successful detection only one bacterium capable of reproduction in the cultural media is necessary for their recognition by such means. On the other hand dead bacteria and those rendered inactive by the anti-bacterial agencies of the plasma and phagocytes of the blood fail to grow. As a result of these immunizing forces hundreds of bacteria per c.c. might be present and yet cultures thereof might be sterile. To throw light on this point the following experiment was made.

Two c.c. of fresh sterile defibrinated blood were taken from the femoral vein of a dog and inoculated with 2 c.c. of 10-3 dilution of an 18 hour culture of streptococci found by the direct method to contain 840,000 groups and by the cultural method 690,000, so that each c.c. of the blood mixture would contain about 191,000 bacteria. The 4 c.c. were incubated at 37 deg. C. for 35 minutes, thereby allowing sufficient time for the polymorphous neutrophiles and the plasma to take up the bacteria, and yet not sufficient time for great multiplication to occur. After this interval one c.c. of this blood was plated in melted agar, and incubated at 37 deg. C. for 36 hours. Dilutions of 10-1, 10-2, 10-3, were also made of the same mixture and likewise plated and grown for 36 hours. At the expiration of this period the colonies were counted.

The primary mixture had not more than 4,000 colonies.

One c.c. of 10-1 dilution gave 291 colonies, or equivalent to 2,910 colonies if the specimen had been undiluted.

One c.c. of 10-2 gave 29, likewise equivalent to 2,900 of the original mixture.

One c.c. of 10-3 dilution gave 4, or 4,000 if undiluted.

The average of the four plates was about 3,000 per c.c.

Thus of the 191,000 per c.c. originally present, only 3,000 remained after 35 minutes' treatment with dog's blood, and if we take cognizance of the individual bacteria, and not of the groups, the number originally present in the 10-3 suspension would show a still greater difference when compared with those recovered. Thus it is seen that the action of the phagocytes may very seriously reduce the number of colonies obtainable by the ordinary method.

While I have made no clinical observations of the suggested method, its applicability to clinical purposes is evident. One can aseptically take one c.c. of blood from the patient, transfer

WHERE ANTHRACITE COAL IS MINED, BRITISH COLUMBIA.

it to a corked tube containing clean, sterile, distilled water and centrifuge it. After 20 minutes it is placed in a narrow tube and again centrifuged. Finally a stained smear may be made from the lowest contents of the finer tube. Where the bacteria are very abundant the second centrifugalization may be unnecessary.

Summary.

1. The direct method of counting bacteria gives very satisfactory results and is as easily performed as an ordinary red blood count.

2. The recognition of bacteria by the cultural method gives no idea of their actual concentration.

3. The direct method of obtaining bacteria from blood is simple, accurate, and requires a comparatively short time for its accomplishment.

I beg to thank Prof. G. W. Stewart for his kindness in revising this paper and Prof. S. A. Mathew for laboratory accommodation in his department.

A MOUNTAIN TOWN, KAMLOOPS, B.C.

ANESTHESIA BY HYOSCINE AND MORPHINE WITH CACTIN.

BY W. C. ABBOTT, M.D., CHICAGO, ILL.

QUESTIONS concerning the effects of new remedies should not be settled by a few chance experiments, but by the reports from many observers, embracing the data from many cases. By this means we may eliminate chance and prejudice, learn to recognize in the varying results achieved the effects of different technic, and define the true field of the remedy by its proper bounds. Unless this is done we are apt to fall into error. For instance, what would become of ether as an anesthetic if, after S. Weir Mitchell had employed it in three experimental cases, all fatal, the profession had accepted his unqualified condemnation and dropped its further consideration? How funny the grave and rather sanctimonious disapproval of anesthesia, published by the great medical authorities at its first introduction, appears to us now. When we reflect that every prominent advance in medicine has met the same opposition it should make us chary of hasty condemnation.

In Wood, Jr.'s, statistical table (*American Medicine*) he enumerates one surgeon who employed scopolamine and morphine in just one case; the patient died and the death was attributed to the anesthetic, though on what grounds is not stated; the surgeon refrained from any further trials of the method, but reports his mortality at 100 per cent. Of what possible value is such a report? Compare it with that of Gauss (see *Clinical Medicine*, June, '07), who administered this combination in 1,000 cases of childbirth, losing no women from the anesthetic and reducing the mortality of the babes from 49 to 29 per 1,000. While the anesthetic did not cause the death of a child, it actually saved the lives of nearly one-half those who would have died without it! These brilliant results were attained by taking scrupulous care as to the purity of the drugs employed, and elaborate perfection of the technic of their administration.

One element in accounting for the remarkable safety of this combination is the rapidity with which it is eliminated. A recent observer, Holzbach, has announced that scopolamine can be detected in the urine first passed by the infant after its birth (when the drug has been administered to the mother during the labor), and sometimes in the second; but never more than a trace, if that, in the urine of the third discharge. We may therefore dismiss from consideration, as caused by scopolamine (hyoscine), any phenomena occurring after this third discharge of the child's urine. As to the effects of the morphine, these are too well-defined and unvarying to be mistaken. If an infant dies with a respiration-

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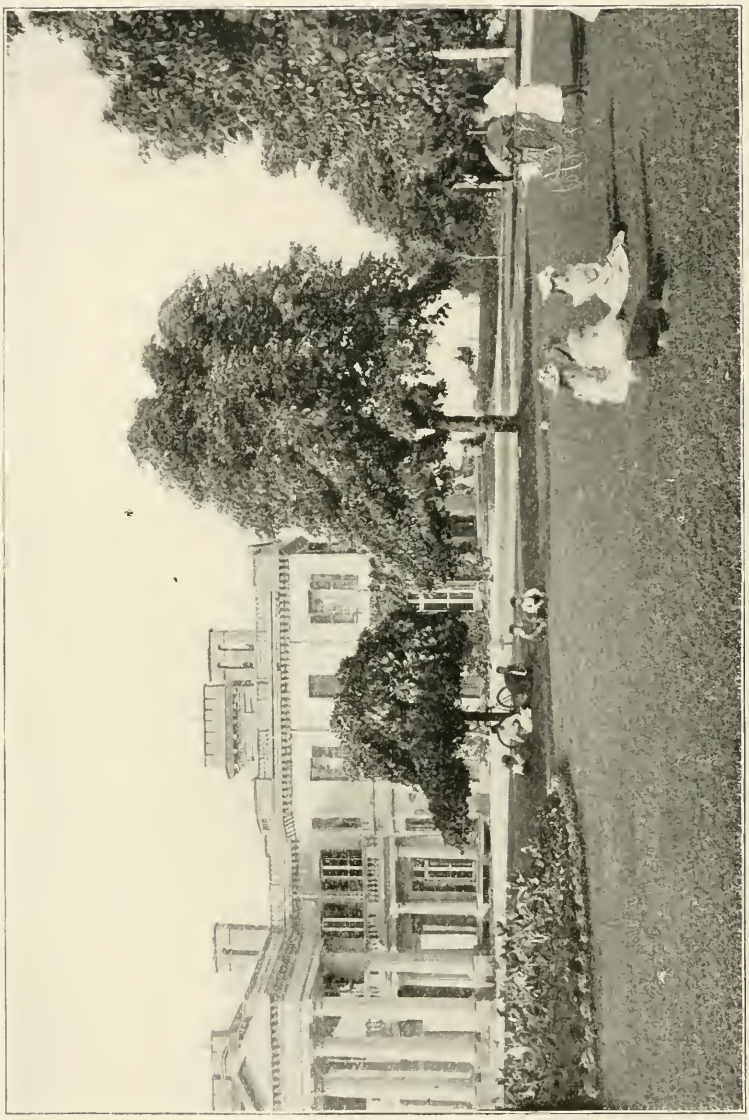
rate of sixty per minute, whatever may have been the cause of death it was not morphine.

The medical profession of America has now been supplied with a million of these anesthetic tablets of hyoscine, morphine and cactin ("H.M.C., Abbott"). According to the deduction made by young Wood, there should have resulted one death from each 221 anesthesias, or 4,520 deaths. Surely such a holocaust of slaughter could not have escaped everybody's notice! But we will allow for several tablets having been used for each anesthesia, and for many being yet unused in the hands of the purchasers, and divide by ten —and we should still have 452 deaths. To be very fair, divide by 100, and we look for 45 deaths. Instead of that we have been unable to find a solitary death reported that is fairly attributable to the anesthetic. Several deaths have been reported, but investigation has failed to show any reasonable evidence that they were caused by the drugs named. Deaths will and must occur after various surgical operations, but there are other causes than the anesthetics.

On the other hand, evidence accumulates to show that these other causes of fatality are to a great extent combated by this anesthetic combination, and that the results with it are better than with ether or chloroform. After the first injection of the H.M.C. all fear of operation vanishes, and the patient's mind is tranquil and confident. Shock is practically eliminated, the peril of hemorrhage lessened, nausea and vomiting almost always prevented, and post-operative pain prevented. The writer has had a notable instance of this last point in his own practice: A patient was subjected to a vaginal hysterectomy somewhat more than a year ago. Total abstinence from even water was enforced for some time after the operation, and meanwhile the attendants kept the telephone wires hot with questions as to whether the intense suffering was right, etc. The operation was very successful in all respects. Quite recently another patient was subjected to the same operation under almost identical conditions, save that in this case the H.M.C. anesthesia was employed instead of ether. The operation was followed by a prolonged and refreshing sleep, from which the patient awoke free from all nausea and pain; she was allowed water when she desired it, took a cup of coffee next morning and watermelon on the next, and her one complaint has been that she was hungry! If these two cases are typical, and the surgeon assures me they are, I am unable to comprehend the attitude of those who do not find any reason for exchanging ether for the H.M.C.

In the medical field this combination has proved the most effective, safe and unobjectionable remedy for severe pain as yet tested. Even where large and continued dosage with morphine had been employed, as for traumatic neuritis, a single tablet of the H.M.C.

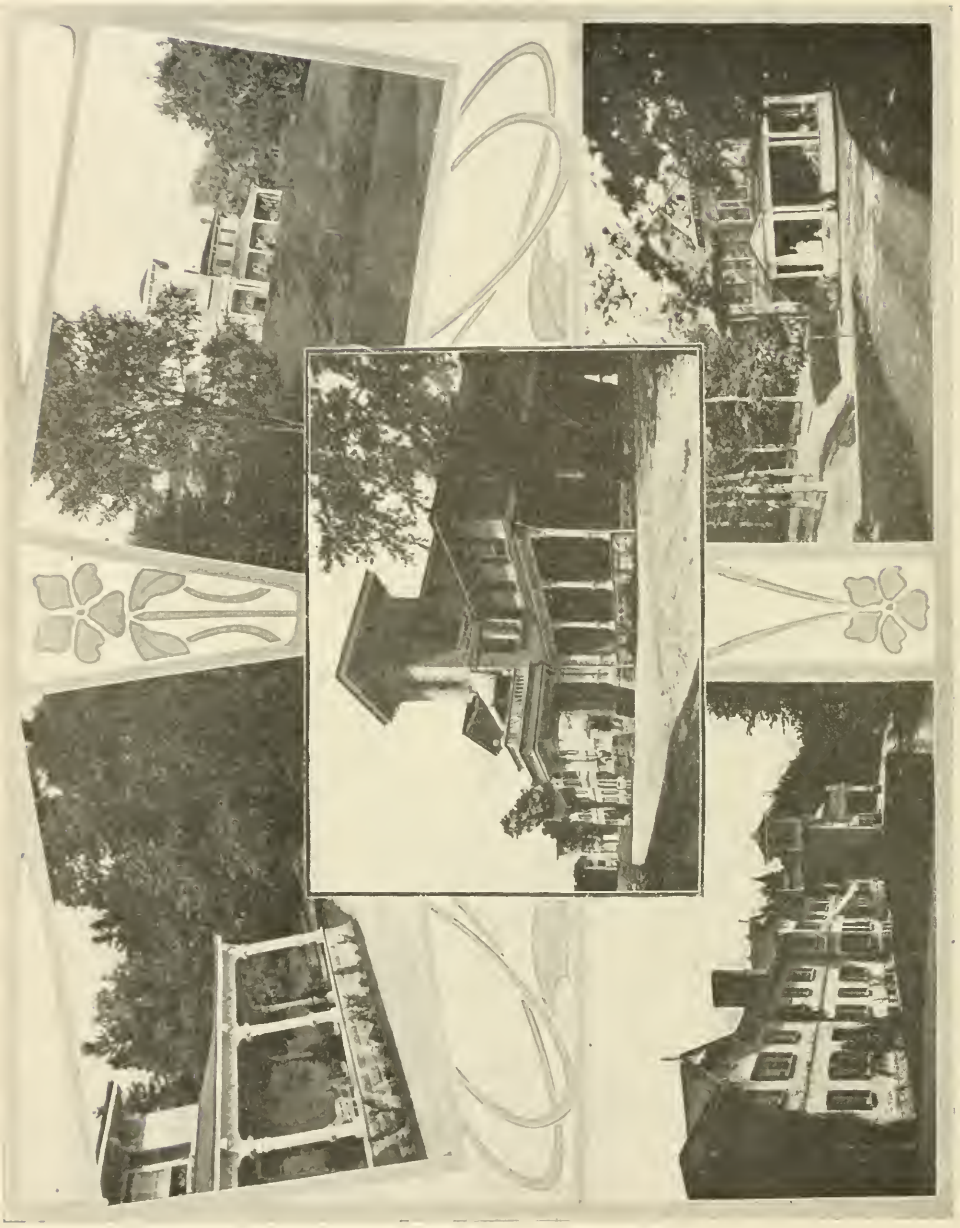


DUNDURN PARK, HAMILTON, ONT.

has proved more effective than six grains of morphine; and instead of requiring more, the doses have been reduced. Heart diseases are no contraindication, but I believe it is not wise to administer this compound in advanced nephritis.

In surgery the field is wide, but still there are limits. The eye does not seem to come under this anesthetic's influence. For office surgery and minor operations, such as require brief unconsciousness only, this is obviously unfit, as it requires a long time for the induction of anesthesia, and this persists for hours, with a prolonged sleep following. But in traumatic cases it is a blessing. Any number of patients in a railway accident may be quickly put at ease while awaiting their turns for attention, and this is safe even without the supervision of a skilled anesthetist. How many times is the surgeon hampered in his duty by the fears and prejudices of the patient; but after one tablet of H.M.C. all this vanishes, and we are free to do what we consider preferable. Take your time to do good work—we have hours of anesthesia without additional administration. Never mind the heart—it is all right; and if the patient forgets to breathe enough and turns blue, just give him a shake (speak to him sharply and he will respond) and go ahead—he's all right. Don't get scared when he remains unconscious, just let him sleep it off. Respiration falls to 14, 12, 10, 8 per minute—well, one doctor, as an experiment, let his go to two, under repeated doses, and then held it voluntarily, he says, at one!

It will therefore be seen that in this combination, hyoscine, morphine and cactin compound (for convenience and for commercial security dubbed "H.M.C., Abbott") we have a most important addition to the armamentarium of the physician and surgeon, first as a general pain-reliever, having a maximum of good effect and minimum of bad, with practically no habit-forming tendencies; second, as a producer of sedation and sleep in confinement cases, the same being made practically painless thereby, and, third, as a thoroughly satisfactory general anesthetic by itself, alone or supplemented with a little ether or chloroform. No disagreeable pumping respiration during operation and no resultant nausea or vomiting therefrom, and, being all this therapeutically, it is so with the maximum of safety and the minimum of expense.



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Editorials.

THE FORTIETH MEETING OF THE CANADIAN MEDICAL ASSOCIATION.

THE fortieth meeting of the Canadian Medical Association will be held at Montreal, P.Q., on the 11th, 12th, and 13th of September next. This meeting promises to be of exceptional interest, owing to the nature and the importance of some of the questions which will come up for discussion. One of these is a project for

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reorganization, which aims to unite, under the ægis of the Canadian Medical Association, all the existing medical societies of Canada. The advisability of establishing an official journal of the Association will also be discussed.

As a period of forty years has elapsed since the Canadian Medical Association was founded, a summary, giving the names of the officers of the Association, with the dates and places of meeting in past years, seems *à propos* at the present time. Through the courtesy of the General Secretary, Dr. George Elliott, who has furnished the data, we are enabled to present them to our readers in this article.

" L'Association de Médécine du Canada Séance du 9, Octobre, 1867," stands at the head of the first page of the original minute book of the Canadian Medical Association. The meeting was held in the University of Laval, Quebec, Dr. Jacques Arthur Sewell, President of the Medical Society of Quebec, acted as President, whilst Dr. Alfred Belleau performed the duties of Secretary. That was the organization meeting which elected the Hon. (now Sir Charles) Dr. Tupper, President, and Dr. A. G. Belleau, Secretary. The minutes of this meeting are inscribed in French and English, as the French-Canadian practitioners of that day took a very active interest in the formation of the national medical association. One hundred and thirty-three delegates were present from the Province of Quebec, nineteen from Ontario, seven from Nova Scotia, and four from New Brunswick. Amongst the names of those present from Ontario were Drs. James H. Richardson and A. M. Rosebrugh, still living and practising in Toronto. Sir Charles Tupper was President for three years and was succeeded by the Hon. D. McN. Parker, M.D., Halifax, who held the office for one year. Both gentlemen are yet alive and in the enjoyment of vigorous health, Dr. Parker having attended the Halifax meeting in 1905. The first regular annual meeting was held in Montreal on the 2nd, 3rd, and 4th of September, 1868. There were 148 present at this meeting. The next meeting was held in Toronto on the 8th and 9th of September, 1869, when but 53 were present. Since then the places of meeting, with the year and the attendance, are as follows: Ottawa in 1870, 59; Quebec, 1871, 80; Montreal, 1872, 52; St. John, 1873, 55; Niagara Falls, 1874, 39; Halifax, 1875, 60; Toronto, 1876, 63; Montreal, 1877, 75; Hamilton, 1878, 88; London, 1879, 60; Ottawa, 1880, 73; Halifax, 1881, 53; Toronto,

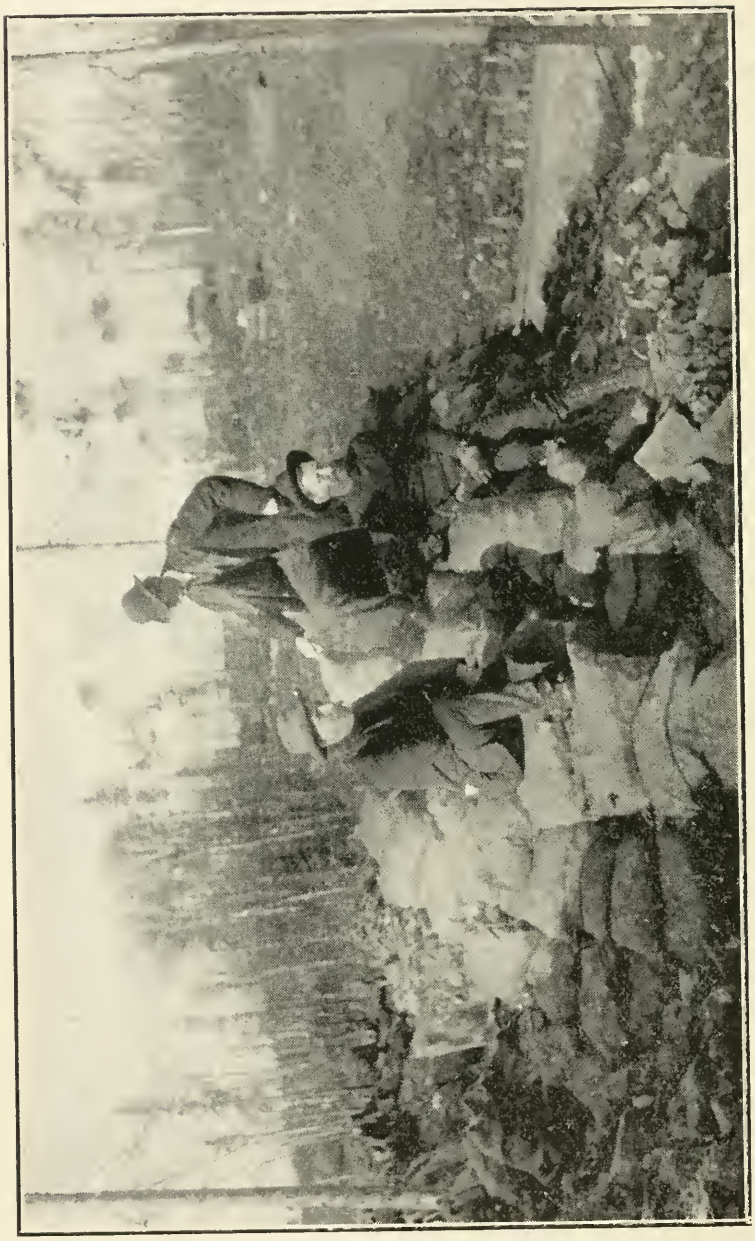
WATERDOWN FALLS, HAMILTON, ONT.

1882, 94; Kingston, 1883 74; Montreal, 1884, 119; Chatham, 1885, 76; Quebec, 1886, 36; Hamilton, 1887, 87; Ottawa, 1888, 70; Banff, 1889, 82; Toronto, 1890, 107; Montreal, 1891, 135; Ottawa, 1892, 106; London, 1893, 92; St. John, 1894, 119; Kingston, 1895, 109; Montreal, 1896, 168; Montreal, 1897, 90; Quebec, 1898, 79; Toronto, 1899, 242; Ottawa, 1900, 156; Winnipeg, 1901, 177; Montreal, 1902, 340; London, 1903, 302; Vancouver, 1904, 266; Halifax, 1905, 222; Toronto, 1906, 79 (B.M.A. meeting).

The following gentlemen have been Presidents of the Canadian Medical Association since its inauguration: Sir Charles Tupper, M.D., Bart. (3 years); Hon. D. McN. Parker, Halifax; Dr. J. A. Sewell, Quebec City (deceased); Sir James A. Grant, Ottawa; Dr. W. Marsden, Quebec City; Dr. LeBaron Botsford, St. John (deceased); Dr. E. M. Hodder, Toronto (deceased); Sir William H. Hingston, Montreal (deceased); Dr. James Workman, London (deceased); Dr. J. D. Macdonald, Hamilton (deceased); Dr. R. P. Howard, Montreal (deceased); Dr. Wm. Canniff, Muskoka; Dr. G. E. Fenwick, Montreal (deceased); Dr. J. A. Mullin, Hamilton (deceased); Hon. Dr. M. Sullivan, Kingston; Dr William Osler, Oxford, England; Dr. T. K. Holmes, Chatham; Dr. J. E. Graham, Toronto (deceased); Dr. George Ross, Montreal (deceased); Dr. H. P. Wright, Ottawa (deceased); Dr. James Ross, Toronto (deceased); Dr. T. G. Roddick, Montreal; Dr. John L. Bray, Toronto; Dr. Charles Sheard, Toronto; Dr. T. T. S. Harrison, Selkirk; Dr. William Bayard, St. John; Dr. Jas. Thorburn, Toronto (deceased); Dr. V. H. Moore, Brockville (deceased); Dr. J. M. Beausoliel, Montreal; Mr. Irving H. Cameron, M.B., Toronto; Dr. R. W. Powell, Ottawa; Dr. H. H. Chown, Winnipeg; Dr. Francis J. Shepherd, Montreal; Dr. Walter H. Moorhouse, London; Dr. Simon J. Tunstall, Vancouver; Dr. John Stewart, Halifax; Dr. Alexander McPhedran, Toronto (2 years).

The General Secretaries have been: Dr. Alfred G. Belleau, Quebec (2 years); Dr. A. H. David, Montreal (12 years); Dr. William Osler (Montreal) (3 years); Dr. James Stewart, Montreal (3 years); Dr. James Bell, Montreal (3 years); Dr. H. S. Birkett, Montreal (3 years); Dr. F. N. G. Starr, Toronto (9 years); Dr. George Elliott, Toronto (elected in 1901).

The Treasurers have been: Dr. R. H. Russell, Quebec (1



BAGS OF COBALT SILVER WAITING TO BE SHIPPED.

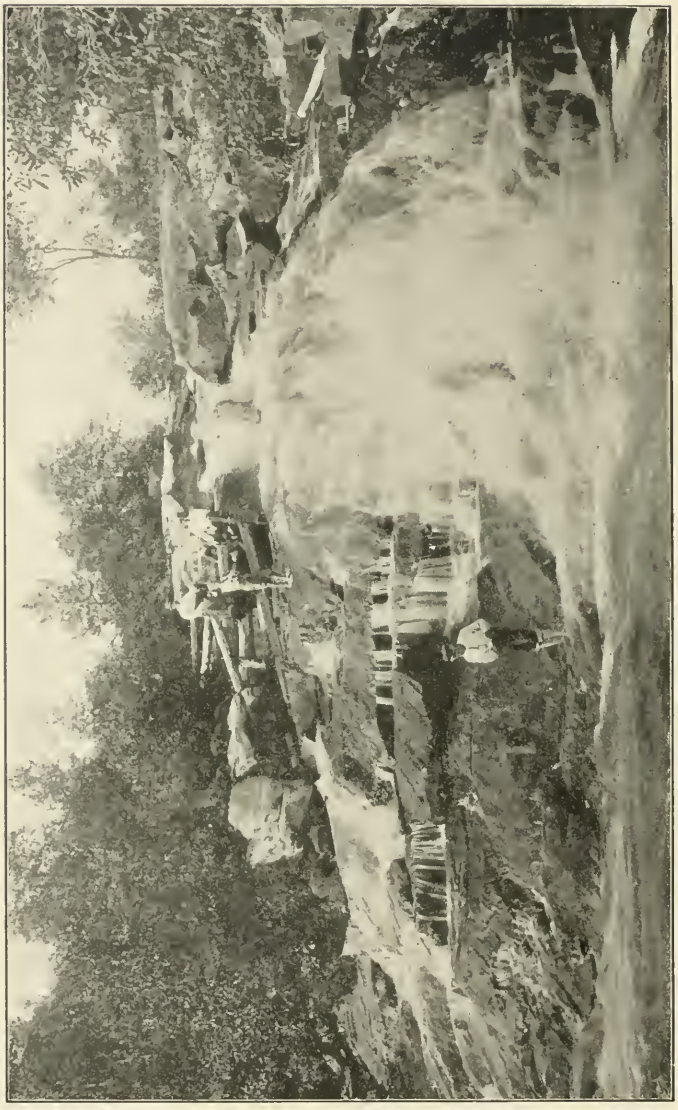
year); Dr. H. Blanchet, Quebec (1 year) Dr. D. W. Scott, Montreal (1 year); Dr. E. Robillard, Montreal (13 years); Dr. Charles Sheard, Toronto (5 years); Dr. W. H. B. Aikins, Toronto (5 years); Dr. H. B. Small, Ottawa (elected in 1903).

There are now on the register of the Canadian Medical Association over 1,400 members.

The attendance at meetings must, in the light of the large number of members, be pronounced exceedingly meagre. It is the duty of the officers and members who do attend to discover the reasons for the apathy of the members who do not attend; to remove that apathy would be an indication of power; to explain it would indicate some skill in diagnosis and might call for the possession of unusual candor. Physicians who have enjoyed exceptional advantages for the acquisition of culture in the art, science and practice of medicine are the most constant in attending the meetings of medical associations, reaching forth, with clarity of vision and fixity of purpose, for additions to their stock of knowledge. But men of light and leading should not be singular in their devotion to the cardinal objects of such meetings. Not only does the habit of staying at home rob the attending members of a valuable and merited assistance; but the men who stay at home lose touch with their confreres and drift into the cul-de-sac of self-satisfied content. This is quite wrong; for, to give polish and completeness to one's knowledge, it should be periodically compared with the observations of others, narrowness and shallowness having no place in medical learning:

> "A little learning is a dangerous thing;
> Drink deep, or taste not the Pierian spring;
> Their shallow draughts intoxicate the brain,
> And drinking largely sobers us again."

Besides, from the standpoint of professional solidarity, for gain or loss, for honor or dishonor, the profession must present a united front. Beneath the surface of things there is much unheralded opposition to the medical profession in Canada to-day. The wealthy please themselves and patronize physicians in a very discriminating way. The poor take all the medical skill they can get in hospitals and from friendly societies. They are profuse in granting opportunities for the exercise of skill, but they do not pay for it.



THE EEL RIVER FALLS, KAWARTHA LAKES.

Physicians should seize every legitimate opportunity to demonstrate the great benefits accorded to the individual, the family and the State by a well-trained medical profession. They should stand together in opposing, as our British brethren are doing to-day, the petty worries of fee collection, the stress of competitive commercialism, and the sweating of the profession by hospitals, friendly societies and similar organizations.

These be matters of cogency, of more interest to the average doctor in Canada than the establishment of an organization intended to embrace all the existing medical societies of this country, under the ægis of the Canadian Medical Association, or the establishment and publication of an expensive Association Journal.

The provisional programme of the meeting is as follows:

Presidential Address, Dr. A. McPhedran, Toronto.

Address in Medicine, Dr. Davy Rolleston, London, England.

Address in Surgery, Dr. Ingersoll Olmsted, Hamilton, Ont.

Address in Pathology, Dr. J. George Adami, Montreal.

Discussion in Medicine, "Cerebro-spinal Meningitis." Introduced by Dr. J. J. Mackenzie, Toronto; Dr. H. A. Lafleur, Montreal; Dr. A. D. Blackader, Montreal.

Discussion in Surgery, "Hypertrophy of the Prostate": Etiology and Pathology, Dr. G. E. Armstrong, Montreal; Symptomatology and Diagnosis, Dr. F. N. G. Starr, Toronto; Treatment, Non-surgical; Treatment, Operative, Dr. James Bell, Montreal.

Section of Laboratory Workers. The following have promised papers:

Dr. G. W. Ross, Toronto; Dr. Gibson, Kingston; Dr. Rankin, Montreal. Reporting work on Opsonins.

Dr. J. J. Mackenzie, Toronto, "Generalized Blastomycosis."

Dr. Campbell Howard, Montreal, "A Study of the Eosinophile Cells of the Blood."

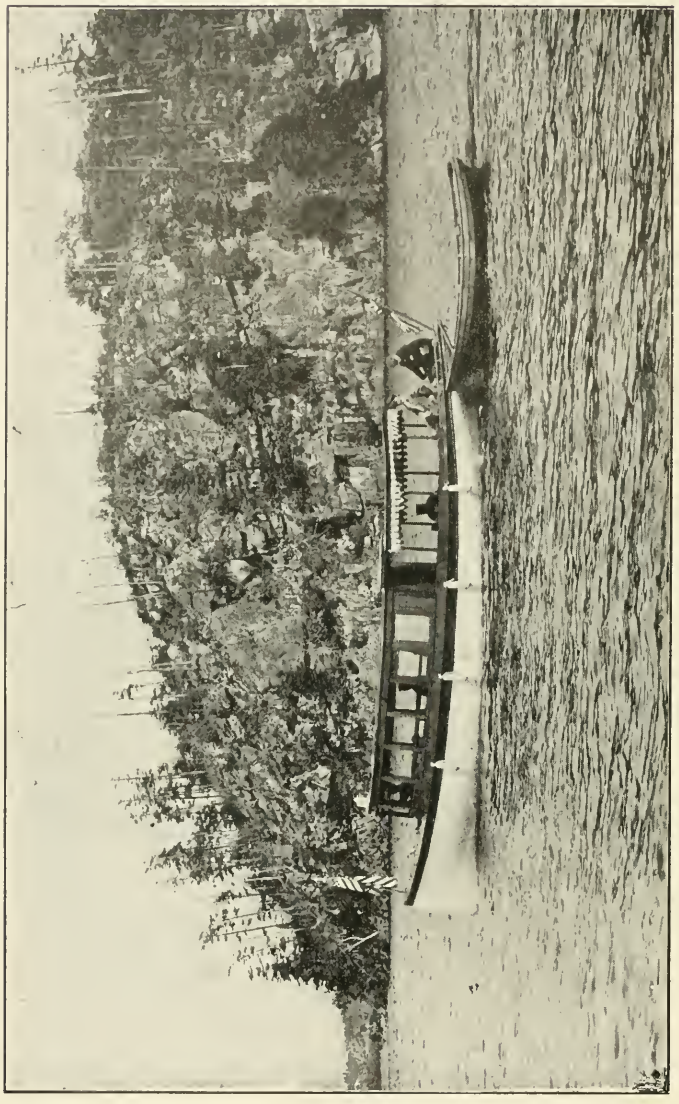
Dr. McKee, Montreal, "On Retinosis Pigmentosa."

Dr. Dixon, Toronto, "On the Significance of the Glomerula Changes in the Kidney."

Dr. J. McCrae, Montreal, "The Neuroses in the Liver in Eclampsia and Other Diseases."

Dr. Tooke, Montreal, "On Injuries of the Cornea."

Dr. Klotz, Montreal, "The Lesions in the Media of the Arteries."



ROSE POINT, GEORGIAN BAY.

The following papers have been promised:

"Listerism," Dr. A. H. Wright, Toronto.

"Seven Hundred and Fifty Abdominal Sections and the Lessons They Have Taught Me," Dr. A. Lapthorn Smith, Montreal.

"Compaartive Anatomy of the Fundus Oculi," with lantern illustrations, Dr. G. Sterling Ryerson, Toronto.

"A Case of Primary Bilateral Mastoiditis," Dr. Perry G. Goldsmith, Toronto.

Title to be announced, Dr. Gordon Byers, Montreal.

"Notes on Tubercular Bacilli Isolated from Fatal Cases of Primary Cervical Tubercular Adenitis," Dr. Duval, Montreal.

"Bacteremia Colon, Its Diagnosis and Its Diagnostic and Prognostic Value," Dr. Fraser Gurd, Montreal.

"Cancer of the Breast," Dr. George E. Armstrong, Montreal.

"Modern Methods in Diagnosis of Tuberculosis of the Kidney," Dr. R. P. Campbell, Montreal.

"Clinical Side of Ectopic Pregnancy," Dr. W. W. Chipman, Montreal.

"Danger Signals in Anesthesia," Dr. Samuel Johnston, Toronto.

"Psychology of the Sick Room," Dr. John Hunter, Toronto.

"Paresis: Certain Features in Regard to the Etiology and Differential Diagnosis," Dr. John G. Fitzgerald, Toronto.

"The Normal Temperature," Dr. R. D. Rudolf, Toronto.

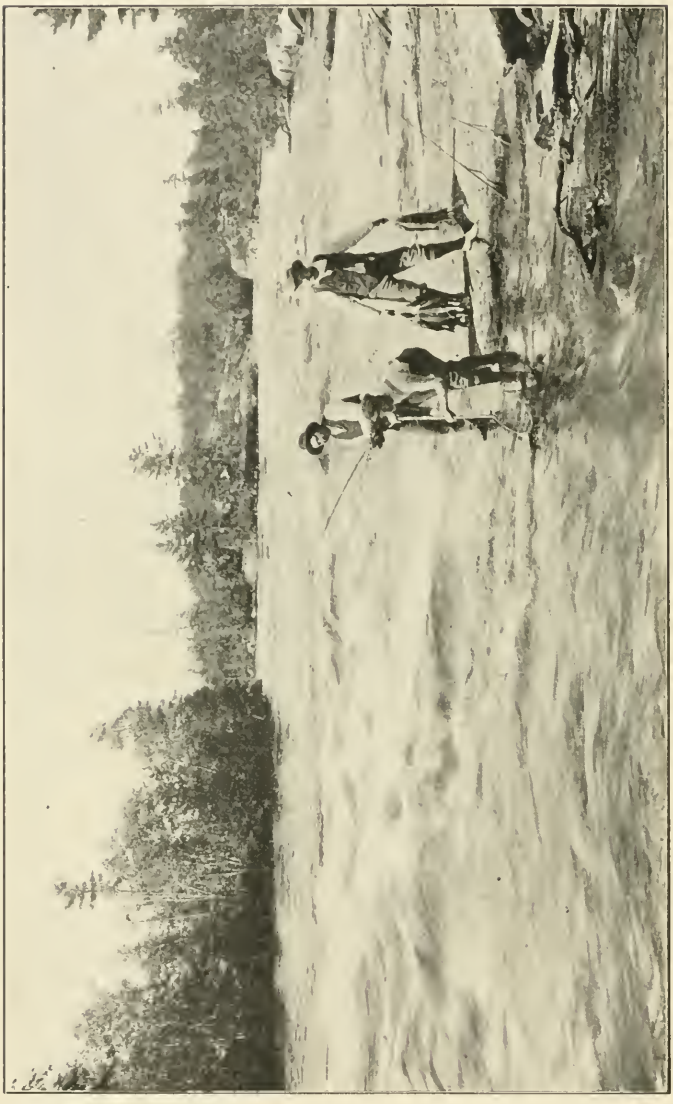
"The Rights of Children," Dr. C. J. C. O. Hastings, Toronto.

"The Defensive Action of Products of Metabolism," Dr. Graham Chambers, Toronto.

"Treatment of Neurasthenia," Dr. E. C. Burson, Toronto.

Papers are also expected from the following: Dr. Connell, Kingston; Dr. Keenan, Montreal; Professor Harrison, St. Anne de Bellevue; Dr. A. W. Moody, Winnipeg; Dr. W. F. Hamilton, Montreal; Dr. F. G. Finley, Montreal; Dr. C. F. Martin, Montreal; Dr. Colin Russell, Montreal; Dr. Campbell P. Howard, Montreal; Dr. A. G. Nicholls, Montreal; Dr. Ridley Mackenzie, Montreal; Drs. Lyman and D. A. Shirres, Montreal; Dr. B. W. D. Gillies, Vancouver; Dr. A. H. Gordon, Montreal; and from Drs. Lowrey, H. B. Anderson, H. C. Parsons, W. B. Thistle, R. J. Dwyer and A. R. Gordon, Toronto.

"When and How to Resume Normal Feeding in Convalescence from Typhoid Fever," Dr. J. T. Fotheringham, Toronto.



THE RAPIDS OF THE FRENCH RIVER.

Dr. Maud E. Abbott, Montreal, will present an exhibition of pathological specimens from the McGill Medical Museum, illustrating the circulatory system.

Prof. J. J. Mackenzie, Toronto, will also exhibit pathological specimen.

Dr. Robert Wilson, Montreal, will give an exhibition of X-ray plates from the different hospitals.

"The Occurrence of Congenital Adhesions in the Left Common Iliac Vein," Dr. J. Playfair McMurrich, Toronto.

"Sigmoiditis and Diverticulitis of the Rectum," Dr. D. A. L. Graham, Toronto.

Ample accommodation has been provided in the Arts Building, Peter Redpath Museum, the Physics Building and the McGee Union. The lecture halls are provided with lanterns, and it is hoped papers will be illustrated by this means. Interesting clinical material will be shown at the Royal Victoria Hospital, Montreal General, Notre Dame Hospital and the Hotel Dieu on the mornings of the meetings at 8.30. J. J. C.

LAKEHURST SANATORIUM, OAKVILLE, ONT.

A HIGHLAND STREAM, HIGHLANDS OF ONTARIO.

News of the Month.

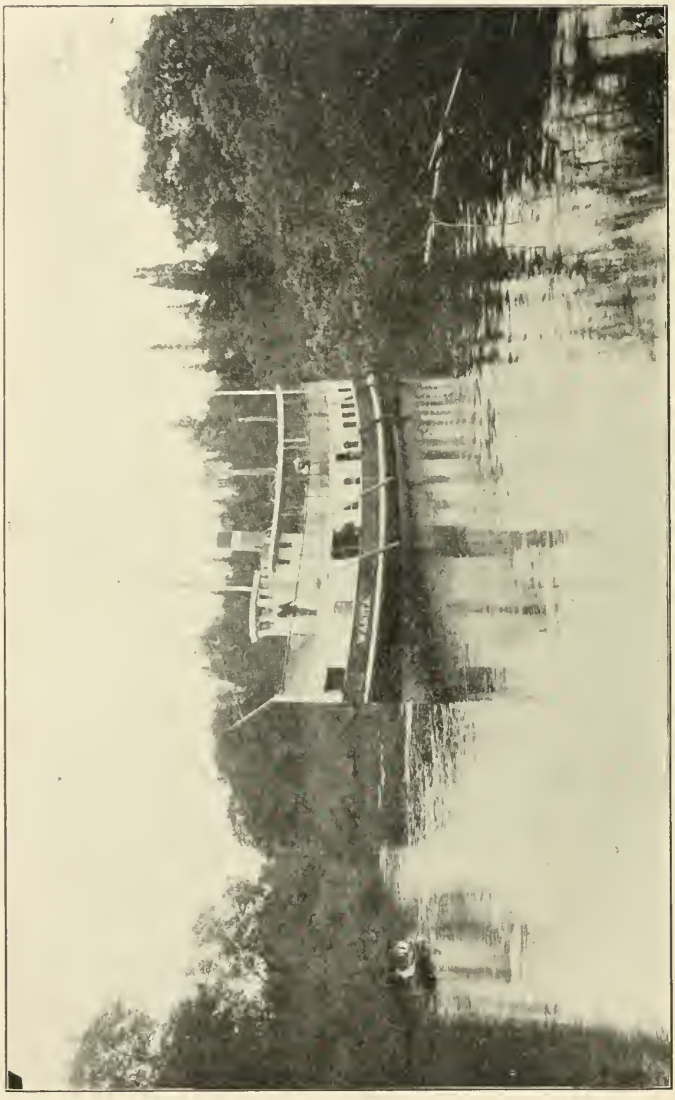
ITEMS OF INTEREST RELATING TO THE MEETING OF THE CANADIAN MEDICAL ASSOCIATION.

When it is remembered that over eight hundred Canadian physicians registered the first day of the British Medical Association meeting in Toronto last year, surely it is not too much to expect that at least three hundred will journey this year to Montreal to the fortieth annual meeting of their own national medical organization. If three hundred are present with Standard Convention Certificates all will be returned home free.

How to Get There and How to Get Home.—The Standard Certificate plan prevails in every Province, no one requiring any certificate from the General Secretary. This means that all delegates, on purchasing single first-class tickets to Montreal, for themselves, their wives and daughters (no others) should ask for and get, at the same time, a Standard Convention Certificate, from the ticket agent for each. These, when signed by the General Secretary at the meeting will entitle holder thereof to reduced transportation, which in all cases must be arranged for at Montreal. If three hundred are present holding these certificates, all will be returned home free; one-third fare if fifty are present with certificates.

Railways and Steamboats.—The Canadian Pacific Railway, the Grand Trunk Railway, the Intercolonial Railway, all lines in the Eastern Canadian Passenger Association, and the Richelieu and Ontario Navigation Company and Canadian Northern Railway, are included in the transportation arrangements. Delegates from points west of Fort William will be permitted to use the Upper Lake Route, Fort William to Owen Sound, or *vice versa,* on extra payment of $4.25 one way or $8.50 both ways, when travelling on the Standard Certificate Plan. Passengers going by rail, returning Richelieu and Ontario Navigation Company, or *vice versa*, rate to be one and one-half fare. Tickets will also be honored via R. and O. Nav. Co., on presentation of rail excursion ticket to the ticket agent at Toronto, or to the purser on board steamer and payment of the following arbitraries, viz., $6.65, Toronto to Montreal; $3.50, Kingston to Montreal.

Those desiring to tour should consult with their local railway agents as to tourist tickets.



ON THE MAGNETAWAN RIVER.

Comparative Schedule of Transportation Rates to Montreal.—From Victoria, $74.55; Vancouver, $74.55; Calgary, $59.50; Strathcona, $62.15; Rossland, $67.05; Nelson, $67.05; Medicine, Hat, $53.20; Regina, $43.95; Brandon, $37.60; Winnipeg $34.55; Kenora, $34.55; Fort William, $29.25; Port Arthur, $29.15; Soo, Ont., $18.00; Windsor, $15.00; Chatham, $14.75; London, $12.95; St. Thomas, $12.75; Woodstock, $12.10; Galt, $11.60; Toronto, $10.00; Guelph, $11.45; Hamilton, $10.65; Peterboro', $7.85; Ottawa, $3.35; Kingston, $5.30; Quebec, $4.90; St. John, N.B., $14.30; Halifax, N.S., $18.45; Sydney, C.B., $21.75.

Dates of Sale of Tickets, Time Limits, etc.—Tickets will be on sale in the Eastern Canadian Passenger Association territory—Port Arthur to Halifax—three days before first day, Sunday not counted a day, and final return limit three days after the last day. From British Columbia points tickets will be sold and certificates issued on September 1st and 2nd, and validated certificates honored for return tickets up to and including October 9th. Tickets good for continuous passage only in each direction. West of Port Arthur and Fort William, the selling dates are September 5th, 6th, 7th and 8th. From stations west of Winnipeg tickets to be good going *via* trains that will connect with those leaving Winnipeg the before-mentioned dates; certificates to be honored at Montreal up to and including October 11th.

Place of Meeting in Montreal.—The meeting place will be the McGill University Buildings. The general meetings will be held in Molson Hall, the Medical Section in the lecture-room of the Redpath Museum, and the Surgical and Pathological Sections in the lecture-rooms of the Arts Building.

Certificate Fee.—The railway officer at Montreal, when exchanging Standard Convention Certificate for return transportation, will collect from each, for vising the same, a fee of twenty-five cents.

Hotel Accommodation.—Delegates desiring to have hotel or lodgings reserved for them should apply to the Local Secretary, Dr. Ridley Mackenzie, 192 Peel Street, Montreal.

Membership.—The fee for membership is $2.00, and may be paid to the Treasurer, Dr. H. Beaumont Small, Ottawa, at time of registering. For the information of those who will apply for membership for the first time, the same transportation rates apply to them as well, and they are requested to ask for application for membership forms when registering.

The Social Side at Montreal.—There is to be a garden party at Terrace Bank through the kindness of Dr. and Mrs. Roddick, a smoking concert in the Victoria Armoury, a reception after the President's Address the first evening in the Student's Union Build-

ing, a drive and luncheon at the Hunt Club for the ladies, golf matches, etc.

Canadian Medical Protective Association.—During the meeting of the Canadian Medical Association, as usual, the annual meeting of the Canadian Medical Protective Association will take place. Dr. R. W. Powell, Ottawa, the President of the C.M.P.A., will deliver the annual address and present the annual report.

Military Surgeons.—There will also be a meeting of Canadian Military Surgeons, an organization which the Director-General of the Army Medical Service, Lieutent-Colonel Carleton Jones, M.D., is promoting.

Re-organization.—Full discussion will take place on the report of the Special Committee on Re-organization. For this reason alone there should be a large and representative delegation from each province.

Additional Information.—Additional information of a local character may be obtained from the Local Secretary, Dr. Ridley Mackenzie, 192 Peel Street, Montreal; any general information from the General Secretary, Dr. George Elliott, 203 Beverley Street, Toronto.

Some of the Canadians Who Attended the Exeter Meeting of the British Medical Association.—The following medical men from Canada attended the meetings of the British Medical Association at Exeter: Dr. Birkett and Professor Starkey, McGill, Montreal; Professor Irving Cameron, Dean Reeve, Drs. Baines, Bruce, Mayburry, Oldwright, Temple, Fred Starr and Doolittle, of Toronto; Dr. Burt, Paris, Ont.; Dr. Atherton, Fredericton, New Brunswick.

The Canadian Journal of Medicine and Surgery

A JOURNAL PUBLISHED MONTHLY IN THE INTERESTS OF MEDICINE AND SURGERY

VOL XXII TORONTO, OCTOBER, 1907. NO. 4.

Original Contributions.

EXPERIMENTAL PRODUCTION OF ARTERIO-SCLEROSIS.*

BY OSKAR KLOTZ, M.D.,

Lecturer in Pathology, McGill University; and Resident Pathologist, Royal Victoria Hospital, Montreal.

BEFORE taking up the study of the experimental production of arterio-sclerosis it is necessary to ask, What is arterio-sclerosis? (*a*) Is it an entity; or (*b*) are several distinct morbid conditions included under this one heading; or (*c*), what comes nearly to the same thing, in different states which we are accustomed to regard as arterio-sclerosis, do we find the different coats and constituents of these coats affected diversely?

It is necessary to ask these questions, because, as I shall show, different procedures and reagents have different effects upon the arteries, and whether we are to regard these experimental results as arterio-sclerosis must depend upon an answer to these questions. The subject of classification has been taken by Professor Welch; fortunately, therefore, I need not discuss the various forms. All that I need say as indicating my point of view is that I do not agree with Jores' narrower definition. His extensive studies, which have received much attention, have led him to include only a particular histological change in the vessels as coming under the category of arterio-sclerosis, while the mass of other scleroses in the arteries remains unclassified. He and those who follow him would limit the term to conditions of intimal hyperplasia, with a peculiar splitting of the internal elastic lamina, conditions which can only be distinguished under the microscope.

*Read before meeting of the British Medical Association, Toronto, August, 1906.

Are we, then, to exclude the clinician from diagnosing arterio-sclerosis? The answer can but be, No! And this for the adequate reason that such is not the sense in which Lobstein applied the term arterio-sclerosis in 1835. Let us preserve the broader meaning, and regard all scleroses or hardenings of the arteries as included under this general term, recognizing, if need be, distinct varieties.

Thus I would point out that arterio-sclerosis is not a simple disease. Although, in some instances, a single coat of a vessel is found affected by a fibrous or other allied change, in others several tunics of the same artery are involved. Again, we may find that in a certain form of sclerosis particular tissue elements are picked out, while other tissues are unaffected, or that when muscle fibres are degenerating in the media the connective tissue elements of the intima are proliferating. Hence we find that we may have two or more such processes inextricably mixed in a progressive disease of the arterial walls.

Of the more common forms of sclerosis of the arteries I would point out that the hard radial vessels by which the clinician makes his diagnosis of arterio-sclerosis is a widely different disease from that recognized by the pathologist at post-mortem examination of the aorta. The sclerosed radial vessels represent a disease which is peculiar to the media; it has its origin in the muscle cells of the middle coat, and the middle coat alone is damaged. The intima and adventitia are not essentially involved in the process, though occasionally a secondary intimal thickening accompanies the medial degeneration. The main changes in the media are a fatty degeneration of the muscle and later of the elastic fibres, both of which become calcified. It is through these calcareous plaques in the media that the beaded character is given to the radials. At these sites of medial degeneration and calcification the vessel wall is perceptibly thinned, so that many small pouchings result. These pouchings, though small, are true aneurysms distributed irregularly in the vessel wall, and when held to the light are seen to be thin and quite transparent. This type of disease, which is most frequent in the vessels of the extremities, I shall later speak of as the Moenckeberg type of arterio-sclerosis, and I shall point out how closely some of the experimental lesions resemble it.

On the other hand, the nodular aorta, which we so frequently meet with at autopsy, is the result of repeated insults telling upon the intima alone. The thickenings of the intima may again be entirely proliferative, and in this case represent a chronic inflammatory production. This I acknowledge is not the view held by all; those who still uphold Thoma's conception of the arterio-sclerotic process see also in the typical nodose sclerotic aorta a primary giving way of the media, and regard the intimal

overgrowth not so much as an inflammatory as a compensatory process. Whichever view be accepted, or be correct, or whether, as would seem to be truly the case, we encounter both conditions. it is still an open question whether the newly-developed cells in the intima are of endothelial or of connective tissue origin; it may be again that both tissues take part in the overgrowth. At all events, few or many layers of cells, which are very like endothelial cells, are produced immediately beneath the endothelium, and it was the character of these cells which led Virchow to name it "endarteritis chronica deformans."

When a similar intimal thickening, by the proliferation of connective tissue or endothelial cells, occurs in the smaller arteries, so that the lumen of the vessel becomes distorted, or even wholly obliterated, the condition is spoken of as "endarteritis deformans sive obliterans." I may, however, mention that seldom if ever is a vessel occluded by the overgrowth of its intima alone. The usual result is that after a vessel has been partly obstructed by the thickened intima, complete blockage is brought about by thrombosis.

Now although we have ample opportunity to study the damage that has been done by the various noxae to the human arterial system, we are as yet largely without the means of recognizing which lesion has been produced by a particular irritant. It thus becomes evident that the histological changes in the arteries must be investigated by experimental means, for it is only in this way that the changes in the arteries produced by insults of different kinds can be followed step by step, and that a decision can be reached regarding the influence of the various injuries.

It is the common fault of experimenters that, having been able to reproduce a disease in whole or in part by experimental means, the conclusion is drawn that all the features of this disease are due to this one cause. To avoid this common mistake we must advance very cautiously towards our conclusions.

The Earlier Experiments.

In the earlier experimental attempts undertaken to produce arterio-sclerosis and aneurysms mechanical means were employed. Thus, Malakoff, and also Fabris, injured the vessel wall directly, either by forcibly pinching it through the skin or by laying it bare and crushing it, or applying corrosive substances to its outer walls. That damages of all kinds were obtained in this manner we can readily understand, but that neither true aneurysms nor arterio-sclerosis resulted is just as clear. Thromboses and inflammation of the arteries were the most frequent results of these violent measures, but these studies have thrown little light on the process of arterio-sclerosis. Malakoff, however, made another interesting experiment, in which he laid the end of the carotid artery bare, and, ligating the vessel about an inch or so away, he

put the isolated portion of the artery under artificial pressure and then returned it to its natural bed. This treatment he claimed led to a calcification of the media—a condition which he said was directly referable to the high pressure to which the vessel was subjected.

Several authors claim to have obtained positive arterial lesions of the character of arterio-sclerosis by irritating or severing the nerves of the leg. Of these, Lewaschew, Bervoets, and Fraenkel each described changes in the femoral and tibial arteries after performing these experiments, but in each case, as Czyhlarz and Helbing pointed out, the influence of the trophic inflammatory disturbances extending from ulcers about the limbs cannot be excluded. These experiments, thus, do not teach us more than that the coats of the arteries, including the intima, take part in an inflammatory process by direct extension from without. That the intima itself could become involved in an acute or chronic inflammation was denied by Rokitansky, who held that the thickening of this coat was the result of the organization of lymph thrown out of the blood. This contention has, however, been shown to be incorrect.

Soon after Thoma brought forward his theory that arterio-sclerosis is a compensatory thickening of a vessel in a region where the media has been weakened and the lumen of the vessel enlarged, several workers endeavored to prove this by experimental means. Thoma himself undertook to show that the stimulus or irritation required for the proliferation of new tissue in the intima lay in the slowing of the blood current. By ligating a vessel he found that on the distal side of the ligature, as far as the first compensatory artery, considerable intimal thickening took place. However, Fuchs(who repeated the experiments, though he found the same changes to occur in the arterial walls, attributed the changes to a diminution of the blood pressure, while others again reported the occurrence of arterial thickening on both sides of the ligature, and ascribed its presence to local thrombosis and inflammation.

The inflammatory theory of arterio-sclerosis received further support in the experiments of Sumikawa, who irritated the vessels by painting them with turpentine or silver nitrate or infected them with bacteria. Vessels so treated showed an inflammatory condition in all the coats, or else in the intima alone. In each case there was a degeneration of the muscle fibres along with a small celled infiltration along the vaso vasorum. His experiments with bacterial infection of the vessel walls bear out the pathological findings in man, where it is noted that inflammatory foci not only lead to a new formation of capillaries in the granulation tissue, but also of vaso vasorum in the neighboring large blood vessels, and, moreover, that the reaction in these blood vessels is accompanied by a connective tissue proliferation and thickening of the intima.

That lead, phosphorus, and mercury produce arterial lesions has long been described in medical textbooks, and yet such lesions have not been produced experimentally. It is true that Lunz, in his experiments with these salts, has found that the elasticity of the vessels was diminished, but Jores could not verify these results, and was unable to find any change in the vessels of animals so treated.

The More Recent Experiments.

Thus until 1903 little advance was made in the experimental production of arterio-sclerosis, despite the many attempts. In that year Jores instituted a series of experiments at the Bonn Pathological Institute, in which he fed animals on adrenalin extract, hoping thereby to test the effect on the arteries of raising the blood pressure. Whether he obtained any marked rise in the blood pressure he does not report. His results, however, on the arterial walls were negative. Josué, using the same substances, applied it in a different way. He repeatedly injected a solution into the ear veins of rabbits. After several weeks of this treatment, he found that the aorta of the animals showed distinct pathological change, with aneurysmal dilatations. The lesions, which varied from the size of a pin's head to a split pea, were distributed irregularly over the thoracic aorta and over the abdominal aorta as far as its middle. The vessel changes consisted essentially of medial degenerations lying in the middle zone of this layer. The destruction of the muscle and elastic fibres with the later deposition of lime salts in them led to a thinning and weakening of the vessel wall, which later became the site of aneurysmal dilatations.

The success of Josué in producing experimental arterial lesions led immediately to like methods being employed by a large number of workers, and in the main their findings have agreed with one another and with Josué's original report. Fischer points out that the lesions produced by adrenalin are all of a medial nature, and that the process is really one of necrosis. He described the elastic fibres lying more closely together, while the muscle cells between the elastic lamellae are in part lost. Similar results have been obtained by Erb, Scheidemandel, Kurt Ziegler, Pearce, and Stanton and others. Sturli found no difference between the lesions produced by synthetic adrenalin and the adrenalin extract. Opinion, however, remains divided as to whether we are right in comparing the experimental results in the lower animals with arterio-sclerosis as we find it in man. Some hold that the lesions are like those commonly seen in the human artery, while others again can find no similarity between the conditions.

Kurt Ziegler and I almost simultaneously compared these adrenalin lesions with the Moenckeberg type of arterio-sclerosis. We have both pointed out how in each the essential lesion is a

degeneration of the muscular and elastic tissue of the media, while as a consequence aneurysms are produced in the vessels. I have found that the degeneration in both instances are of the nature of fatty metamorphoses of the involved tissue, which later goes on to calcification.

Ziegler holds that the lesions produced by the inoculation of adrenalin are of a nutritional character, or, rather, due to lack of nutrition. Torri and others, on the other hand, regard them as the outcome of heightened blood pressure, while Fischer considers the process as a pure necrosis due to the direct action of the drug on the muscle cells. Observations in favor of the degenerative or necrotic theory have been recorded by Braun. He found that the combination of adrenalin with amyl nitrite neutralizes the pressure-raising power of adrenalin, but, notwithstanding, the arterial changes manifest themselves just as when adrenalin alone is administered. A somewhat different result, however, was gained by Mironescu. He found that the inoculation of euthalmin alone had no effect on the arteries, while at the same time he noted that it produced a drop in the blood pressure. If after the inoculation of adrenalin the animals were also given a dose of euthalmin he found an initial rise with a secondary drop in the blood pressure, and that these animals showed arterial changes much sooner than those treated with adrenalin alone. Hence Mironescu concluded that it was the sudden change from a high to a low pressure that had a deleterious effect upon the arteries.

Harvey has recently demonstrated some very interesting experiments in regard to the degeneration of vessels. He notes that vessels under pressure undergo a more rapid destruction than those which are lax. This throws some light on the effect of high blood pressure in the arteries.

Experiments have also been undertaken by some to observe the effect of bacteria and their toxins on the vascular system. Gilbert and Lyon claim to have produced lesions similar to those produced by adrenalin.

In the main the different experimental results agree with one another, yet the inferences as to the nature of the lesions and the similarity with arterio-sclerosis in man differ widely; the majority of authors hold that the changes brought about in the arteries of animals are of an arterio-sclerotic nature, but in my opinion only one of them draws the proper inference and shows the identity of the changes in the vessels of the "adrenalin animals," and the Moenckeberg type of arterio-sclerosis in man.

The Author's Own Observations.

It was the indefiniteness of the results obtained in the experimental work that prompted me to attempt the production of

arterial lesions. Simultaneously with Braun and Mironescu, I had conceived the idea of abolishing the high-pressure effects of adrenalin by combining it with a drug producing vasodilatation. I also observed the effect of adrenalin inoculated directly into the muscle tissue. Other substances, as digitalin and barium chloride, which have the effect of raising the blood pressure, were also tried. Lastly, the effect of producing a septicemia with different organisms was made, and in these experiments some interesting arterial lesions were obtained. In my series of observations over forty rabbits were used. In these animals I found that results are most easily obtained. Control animals were used in all cases where necessary, particularly in cases where the animals were inoculated with two substances simultaneously.

Adrenalin Chloride, Barium Chloride, and Digitalin.

Adrenalin chloride was administered intravenously to animals in doses varying from 0.3 c.cm. to 2.0 c.cm. of the 1 in 1,000 solution. The best results were obtained by giving large doses at intervals of three to four days. In several cases the animals died of acute edema of the lungs immediately after the inoculation of the adrenalin, but I have never met with a case of death from cerebral hemorrhage, as has been reported by others.

The arterial lesions varied in extent and severity with the length of time the animals were under treatment, with the quantity of adrenalin inoculated, and with the idiosyncrasy of the individual animals. The lesions were usually present at the end of two or three weeks, and the early changes consisted in small isolated plaques of calcification with pittings in their centres. When these grew larger, saccular aneurysms made their appearance. These lesions were distributed mainly over the thoracic aorta and in the abdominal aorta as far as the renal vessels.

Again, in other cases it was found that the entire thoracic aorta, half of the abdominal aorta, the vessels of the neck and those of the abdomen were completely calcified. The thoracic aorta, however, alone showed a diffuse aneurysmal dilatation, beginning at the aortic opening and reaching as far as the diaphragm. Neither the abdominal aorta nor any of the smaller vessels were involved in this dilatation.

The results obtained by the inoculation of barium chloride were exactly the same as those produced by adrenalin; in fact, the similarity is so striking that the lesions cannot be distinguished from one another either macroscopically or microscopically. In several cases I was able to produce the diffuse aneurysm of the aorta by the use of barium chloride, and in each example it was striking how the aneurysm was isolated to the thoracic portion of the vessel and did not advance beyond the diaphragm.

Fischer's experiments, too, of producing arterial lesions by

the intravenous inoculation of digitalin, were also repeated, and I agree with his findings that the arterial lesions isolated in the aorta are similar to the milder adrenalin destructions.

It was further found that, if the pressure-raising effect of adrenalin be abolished by the use of nitroglycerin, although the arterial lesions were not as extensive as when adrenalin alone was used, nevertheless, tissue degeneration in no way differing from that produced by adrenalin did still occur in the vessel walls.

In such cases where the arterial lesions were just beginning there was no change to be noted in the vessels macroscopically. I might point out, too, that in none of the vessels that I have obtained from animals treated with adrenalin was I ever able to make out any naked eye changes in the intima. This coat was at all times stretched smoothly over the damaged media. The earliest damage was always found in the muscle cells of the middle zone of the media. Here patches of homogeneous tissue were met with, where the muscle nuclei were lost, but where the elastic fibres passed through these areas unaffected. With the loss of the muscle cells the parallel elastic fibres were crowded closely together by the blood pressure within the vessel. This crowding of the alastic fibres from within outwards naturally led to a small dimple at this point and this was the beginning of a sac-the margin of the aneurysm.

The loss of the muscle cells takes place by a form of necrosis, as was pointed out by Erb and Fischer. The elastic fibres later become affected, losing their elasticity and contractile power. This degeneration of both muscle and elastic fibres occurs through a process of fatty change, which is in some cases difficult of demonstration, but which is, however, readily brought out in those cases where the metamorphosis is slower. With the high calcium content of the rabbit's blood these areas of fatty degeneration in the media of the aorta and other vessels are converted into calcified plaques by the process previously described. Microscopically, no connection could be linked between the positions of the vaso vasorum and the arterial degenerations, and a true mesarteritis, as noted by Fischer, was not met with.

In no instance have I found a primary change occurring in the intima after any of the above treatments, though in one or two specimens I did note the slight thickening of the intima at cular aneurysm.

It is to be noted, too, that with the abolition of the physiological effects of adrenalin, the arteries are still affected, though more slowly and to a less degree than where the vessels are under tension. Boveri claims to have abolished the effects of adrenalin on the blood vessels by combining it with "Jodipin," though he was not able to prevent the toxic effect on the muscle cells.

The effect of adrenalin chloride inoculated directly into the

skeletal muscle depends upon the strength of the dose given. When the undiluted 1 in 1,000 solution of adrenalin chloride is inoculated into the muscle tissue the cells are killed outright, so that the nuclei and cell membrane disappear. Weaker solutions produce a fatty degeneration of the muscle cells. It was found also that the animals receiving the adrenalin treatment over an extended time developed fatty degeneration of the heart. So we can but conclude that adrenalin has a selective action on muscle tissue, and that its toxic effect thereon is the primary cause of the arterial lesions. The same holds true for barium chloride and digitalin. The three substances are thus similar in their effects, differing only in the intensity of their reaction.

The influence of high pressure in producing arterial change is well brought out in these experiments. We have noted that the most frequent site and the most severe changes occur in the thoracic aorta, and that the vessels in the remote parts of the body are only affected when advanced lesions are present there. We must admit that the inoculated substances are distributed equally to all parts of the body, and that from toxemia alone all vessels of similar structure should suffer equally. But the normal amount of work done, besides the increased strain that is produced by raising the blood pressure, is felt most severely in the aorta, mainly in the thoracic portion. As a result of this combined degeneration and high pressure, the thoracic aorta exhibits a fusiform aneurysm, extending from its origin to where it passes behind the diaphragm. From this localization of the diffuse aneurysm to the thoracic aorta, it is evident that the aortic opening in the diaphragm acts as a flood-gate in letting only a given quantity of fluid through. By this mechanical device the abdominal aorta is relieved of having an increased volume of blood thrown into it by the overworked heart, and thus is not subjected to the double degenerative forces of toxemia and high blood pressure, as in the thoracic portion. Focal degenerative lesions are nevertheless found in the abdominal aorta.

The important role that the muscle fibres of the media play in the strength of the arterial wall is well known. In fact, it is pointed out that they are the mainstay of the vessel. This fact is exemplified in these experiments, where it is found that with the primary degeneration in the muscle cells the vessel wall begins to give way in this region. The elastic fibres at this time, though themselves not visibly altered, no longer take on the wavy contour which is characteristic of them in a relaxed vessel. It would seem from this that the apparent elasticity, as shown by their undulations, is not an inherent quality, but is due to the contraction of the muscle fibres surrounding them—or, otherwise, that when the artery is in a condition of tonus, its contracted state is due mainly, if not entirely, to the muscle fibres; when

dilated it is possible that the elasticity of the elastic fibres comes into play.

A proliferation of the intimal tissue in these cases is to be regarded as secondary to degenerative processes in the media. The proliferation is either of the character of a hypertrophy of the musculo-elastic layer or of the subendothelial tissue. Whether this subendothelial tissue had its origin in connective tissue or endothelial cells we cannot discuss here.

Infective Arterio-sclerosis.

I have also undertaken the production of experimental arterial lesions with infective agents. For this purpose *B. typhosus* and streptococcus were used in separate experiments, while again in others diphtheria toxins were inoculated. Each of these agents was inoculated intravenously into rabbits.

The results obtained with *B. typhosus* and the streptococcus were of the same order. The first part of the pulmonary artery and the ascending limb of the aorta showed warty thickenings of the intima. There were no aneurysmal sacs nor any sign of a calcareous degeneration of the media. Microscopically there was a fatty degeneration of the subendothelial tissue, while there was, however, much connective tissue advancing into the degenerated area. A small-celled infiltration was wanting, as was also any sign of calcification. At the areas of thickening of the intima it was found that the internal elastic lamina had split into several parallel layers, which were stretched between the proliferating cells. The area affected included the intima and the inner layer of the media. Thus we find that these infective lesions (*B. typhosus* and streptococcus) differ entirely from those produced in our adrenalin series. What we may term the adrenalin group are agents producing destruction of tissue leading to calcification with little or no local repair to make up for the lost tissue, while the mild infections lead to a slight degeneration of the vessel coats, though the process is followed step by step by the process of repair, and instead of getting a thinning of the vessel wall there is an actual thickening. It becomes self-evident that with the absence of extensive destruction of the muscle fibres in the media no aneurysms were formed.

In our experiments it must be remembered that we dealt with cultures of low virulence. The possibility must not be overlooked that virulent micro-organisms gaining entrance into the adventitia through the vaso vasorum, and proliferating there, might invade the media and induce local degeneration and destruction, and if the reparative process could not keep pace the weakening of the media might result in aneurysm formation. Such lesions would correspond to the mitotic aneurysms in man, which

have been described by McCrae and others; nay more, the observations of Heller, Chiari, and others upon syphilitic mesaortitis, afford a like explanation for aneurysms in the syphilized.

The presence of lesions in the pulmonary artery is worthy of note in comparing the distribution of the lesions with those of the adrenalin series. In the latter, the aorta and its branches were alone involved, while the heart became hypertrophied—a feature that was not seen after the bacterial inoculations.

The repeated inoculations of diphtheria toxin into rabbits gave surprising results. Here, instead of meeting with proliferative changes, such as the *B. typhosus* and streptococcus produce in the aorta, there were only lesions of a degenerative character. The degenerations were isolated to the first part of the aorta, and were identical with those produced in the adrenalin series. The thinning of the arterial wall, with calcification and aneurysmal dilatations, were all present, and the microscopical examination showed the lesions to be confined to the media. No proliferative or inflammatory changes were present in the intima, nor was there any change about the vaso vasorum.

Hence we have before us two interesting groups of arterial lesions resulting from infective conditions. On the one hand, lesions are intimal and proliferative, while on the other they are of a purely medial degenerative nature. The free toxins of diphtheria have a predilection for the muscle tissue of the circulatory system, whereas the endotoxins of typhoid and streptococcus infections are in small doses rather of a stimulating nature to the connective tissue and endothelial cells.

If, then, we are to consider the nature of the lesions produced in the arteries as a criterion in classifying the toxins, we must place the diphtheria toxin along with the adrenalin series, while the endotoxins, the stimulating or proliferative agents, form another. The marked differential characters which are brought out by the two series in experimental animals make it more than probable that such differences also exist in man—that is, that typhoid or streptococcus infection will lead to an endarteritis, while diphtheria will produce lesions of a degenerative character, affecting chiefly the muscle cells.

The fact that the streptococcal and typhoidal infections lead to a splitting of the internal elastic lamina with a proliferation of the subendothelial tissue (and also the musculo-elastic layer) places the lesion in very close relationship with arterio-sclerosis in man, as it is described by Jores.

To sum up the results of my experiments, I find that:

1. The effect of the high-pressure drugs (adrenalin chloride, digitalin, and barium chloride) on the arteries is a degenerative one, as was described by Fischer and Erb for adrenalin.

2. The muscle cells of the media are first attacked, while the elastic fibres of this layer are also involved later.

3. At a proper stage of the degeneration a fatty change can be demonstrated in the tissues, followed by calcification.

4. The middle zone of the media is always involved.

5. Occasionally secondary reactions occur in intima which are of a proliferative nature.

6. The effect of adrenalin is not abolished by lowering the blood pressure with nitroglycerin.

7. The aneurysms are produced as a result of the destruction in the media.

8. These experimental lesions are in every respect similar to the Moenckeberg type of arterio-sclerosis.

9. The effect of diphtheria toxins on the arteries is similar to that of the adrenalin series.

10. Typhoid and streptococcus infections produce little destruction of tissue cells, but tend to stimulate cell proliferation in the intima and inner layer of the media.

11. Vessel changes are brought about by these infections which correspond to arterio-sclerosis, as described by Jores.

12. Contrary to the general conclusions reached by Thoma, these experiments show that there is definitely a form of arterio-sclerosis in which, not a preliminary weakening of the media, but a primary proliferation of the intima, including the musculo-elastic layer, is the prime feature. To what extent this essentially proliferative type is to be encountered in the human aorta and other vessels must be left an open question. Undoubtedly, in the medium-sized arteries, the Moenckeberg type of medial degeneration is common. Undoubtedly also in syphilitic as well as other cases, we encounter in the aorta a secondary and adaptive or compensatory overgrowth of the intima—secondary, that is, to the medial degeneration.

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Proceedings of Societies.

MEETING OF EX-HOUSE STAFF ASSOCIATION.

The second annual meeting of the Ex-House Staff Association took place at the King Edward Hotel on Monday, May the 27th, at 7.50 p.m., some 40 of the members dining together. Dr. J. F. N. Ross presided. At the close of the dinner the following constitution and by-laws were adopted:

Draft Copy of Constitution and By-Laws Of Toronto General Hospital Ex-House Staff Association.

Constitution.

Article I.

The name of this Association shall be the Toronto General Hospital Ex-House Staff Association.

Article II.

The object of this Association shall be the meeting together of its members at stated times for the purpose of creating a feeling of *esprit de corps* among the various staffs who have served as internes in the Toronto General Hospital, and for the promotion of scientific medicine.

Article III.

Section 1. The membership of this Association shall be active and honorary.

Section 2. Active members shall be those who have served for a period of six months or over on the House Staff of the Toronto General Hospital.

Section 3. The fee for membership shall be the sum of $1.00 per annum.

Section 4. Honorary membership may be suggested at any annual meeting by any member for any person whose services may entitle him to such recognition, or for any other person who in the judgment of the Association is entitled to such membership.

Article IV.

The executive officers of the Association shall consist of a President, a Vice-President, a Secretary and a Treasurer.

These officers, together with a Council of three, shall constitute the Executive Committee.

Article V.

The executive officers shall be elected at each annual meeting and shall serve until the close of the meeting next succeeding, or until their successors are regularly elected and installed.

Article VI.

All vacancies occurring in executive officers between annual meetings shall be filled by the Executive Committee. Three shall form a quorum.

Article VII.

Amendments to the Constitution shall be submitted in writing and signed by at least five members. These must be transmitted to the Secretary, who shall forward copies to every member of the Association at least five days before the annual meeting. They shall be passed by not less than a two-thirds vote of the members present and voting.

By-Laws.

Article I.—*Meetings.*

Section 1. The regular meetings of the Association shall be held at the place and date fixed by decision of the annual meeting or the Executive Committee of the Association. The Executive Committee shall also arrange a programme for the annual meeting.

Section 2. Special meetings may be called by the President, or in his absence, by the Vice-President, upon the written petition of not fewer than five members. This petition shall recite the object of the call. The President, through the Secretary, shall give notice of not less than thirty days before the proposed time of such special meeting, to each member of the Association. Such notice shall also recite the object of the meeting.

Section 3. A quorum of the Association shall consist of not less than 12 members.

Article II.—*Elections.*

Section 1. All officers shall be elected by ballot, except where it is otherwise ordered.

Section 2. A majority of the votes cast shall constitute an election.

Section 3. Only active members shall be entitled to vote.

Article III.—*Duties of Officers.*

Section 1. The President shall preside at all meetings of the Association. He shall appoint all committees, unless by vote of the Association other provision shall be made. He shall be *ex-officio* a member of all committees.

Section 2. The Vice-President, in the absence of the President, shall perform his duties.

Section 3. The Secretary shall keep the minutes of the meeting and the records of the Association in a book provided for this purpose.

Section 4. The Secretary shall conduct the correspondence of the Association, and keep on file all letters and al correspondence, together with all replies thereto.

Section 5. The Treasurer shall receive all dues and other moneys of the Association, and shall submit these accounts, together with a financial report, at the annual meeting of the Audit Committee, after which he shall present this report, with the endorsement of the Auditing Committee, to the Association.

Article IV.—*Committees.*

Section 1. The President elected at the annual meeting shall appoint the following committees: An Auditing Committee of three members; a Nominating Committee of seven members; a Committee on Constitution and Rules of three members; a Historical Committee of three members.

Section 2. The Auditing Committee shall receive and audit all accounts of the Treasurer, and all bills contracted on account of the Association, stamping its approval thereon, and return them to the Treasurer for submission to the Association.

Section 3. The Committee on Nomination shall nominate to the Association the name of candidates for President, Vice-President, Secretary, Treasurer and three Councillors. The action of this committee is at all times subject to the approval of the Association.

Section 4. The Committee on Constitution and Rules shall consider and report on all proposed amendments to the Constitution and By-laws and all rules of order.

Article V.—*Dues.*

Section 1. The dues of each member shall be $1.00 (one dollar) per annum, and shall be paid to the Treasurer of the Association on or before each regular meeting of the Association.

Section 2. Any member delinquent in his dues more than three successive annual meetings shall upon the report of the Treasurer of adequate notification, be suspended from membership.

Section 3. The Treasurer shall notify the delinquent of such suspension, and at the same time the Secretary of the Association, who shall enter it upon the records.

Section 4. Any delinquent may reinstate himself upon payment of all back dues, as well as those for the ensuing Convention.

Article VI.

The Treasurer shall, upon the certification of the President and Secretary, pay all bills.

Article VII.—*Guests.*

Members of this Association may have the privilege of inviting special guests to the meetings with the consent of the President. Guests thus introduced shall be permitted to participate in the discussions.

Article VIII.—*Discipline.*

Section 1. All charges of violation and infraction of rules or unbecoming conduct shall be referred to a special investigating committee appointed by the President.

Section 2. Due notice of the charges shall be given to the alleged offender in writing, by the Secretary of the Association.

Section 3. The Association shall have the right and authority to reprimand, suspend, and expel any member guilty of violation of any of the provisions of the Constitution or By-laws of the Association, after a full and fair investigation of any allegation of such infraction or violation shall have been made.

Section 4. A four-fifths vote shall be necessary to sustain the action of such committee.

Article IX.—*Order of Business.*

Calling of the Association to order.
Reading of Minutes of previous Convention.
Announcements.
Unfinished Business.
Reports of Committees.
New Business.
Presentation of Papers, and Discussion.
Adjournment.

Article X.—*Amendment to By-Laws.*

No part of these By-laws shall be suspended, altered, or changed, except as provided for by Article VII. of the Constitution.

The Nominating Committee reported as follows: President, Dr. W. P. Caven, Toronto; Vice-President, Dr. Alexander Taylor, Goderich; Secretary, Dr. J. N. E. Brown, Toronto; Treasurer, Dr. W. B. Hendry, Toronto; Council, Dr. R. H. Robinson, Toronto; Dr. Greenway, Coldwater; Dr. Shuttleworth, Toronto.

This report was adopted.

The following were appointed members of the Historical Committee: Dr. H. B. Anderson, Toronto; Dr. Chas. O'Reilly, Toronto; and Dr. J. F. W. Ross, Toronto.

The President appointed Doctors Mackenzie, A. Adams, and D. Anderson as members of the Auditing Committee; and the following gentlemen on the Committee of Constitution and Rules: Doctors A. A. Beatty, Charles Trow, and J. N. E. Brown.

During the absence of the Nominating Committee, Dr. Brown laid before the Association a proposal to establish occasional clinics at the Hospital, to which, by courtesy of ex-members of the House Staff, who are now on the staff of the Hospital, members of the Association would be invited to take part. This would be in accordance, he said, with the spirit of the second object of the Association. It was ordered that this be referred to the Executive Committee and the members of the Hospital staff who were ex-house surgeons.

It was moved by Dr. G. W. Ross, Jr., seconded by Dr. Harold C. Parsons, and resolved, That this meeting request the Executive Committee to arrange for a definite programme on the afternoon of the day chosen for the dinner next year, at which members of the Association may informally report any work they have done during the year.

The following gentlemen were elected as Honorary Members: Dr. Chas. O'Reilly, Toronto; Dr. A. Taylor, Goderich, and Dr. L. F. Barker, Baltimore.

Dr. Ross then delivered the following address:

Accept my thanks for the honor you conferred upon me by electing me as president for the year that is just passing.

It is my intention to endeavor to interest you in a few of the details connected with the lives of medical men who lived in Toronto and were active in connection with Hospital life here during the term of my incumbency as hospital interne, and who have passed away. It is not my intention to say anything regarding the living.

The General Hospital was established in 1819, through the efforts of the Military Surgeons when there were about one thousand souls living in Toronto. The Chairman of the Medical Board was Dr. Christopher Widmer, and he held the position for 35 years. He was the recognized leader of the profession at that time. He died in 1858. I have often talked to my mother about

him, as he attended the family of my grandfather, John McIntosh, who lived on Yonge Street, near the corner of Queen, and he attended my grandfather in his last illness. His conduct as a doctor was exemplary. He came in, pulled off his coat and hat, saw his patient, and went out as he came in, in a purely professional capacity, strictly attending to his own business. He was very particular regarding every detail of the proprieties of life. His domestic affairs were not satisfactory. His first wife was a very jealous woman, though a lady of accomplishments. He resented her jealousy, and as a consequence there were strained relations up to the time of her death. His second marriage was not all that was to be desired, and I have often heard my mother speak of this. His only son was wild and dissipated, but in spite of this the father's heart was filled with love for him; and after the death of the erring boy the father paid daily visits to his grave. Widmer lived on Front Street, between Berkeley and Princess, and I remember the house quite well. It was a double story roughcast building, with a verandah around it and placed on an ample lot. Hard by was the gaol, on a lot on which now stands a building of the gas company, and as Widmer was gaol surgeon the gaol was conveniently situated for him. In front of his residence was a large square called the Fair Green, where the boys of the time played games. His funeral was very largely attended. On the 7th of May, 1858, after it was over, a meeting of the prominent members of the medical profession was held, and it was resolved that a full length portrait of the deceased be painted and placed temporarily in the Board Room of the General Hospital until such time as the contemplated Medical College should be erected.

Widmer was a founder, and the first president of the Medico-Chirurgical Society of Upper Canada, established in 1833, so that he may be looked upon as at least one of the pioneers of medicine and surgery in Upper Canada or Ontario. The Medical Board was created by the Medical Act of 1818, just one year before the establishment of the General Hospital. The place of the Medical Board was taken by the College of Physicians and Surgeons, but as this body came into contact with the Royal College of Surgeons of England, the act creating it was disallowed, and a return was made to the Medical Act of 1818 and to the similarly constituted medical board. I show here one of the diplomas granted after the presentation of the certificate of the Medical Board to the Provincial Secretary, and signed by the Earl of Elgin and Kincardine, himself a graduate of Merton College, Oxford. The license of practitioner was granted to my father in the year 1851. I have also to show you a drawing made originally by the late Dr. Norman Bethune, and published in the Anglo-American, a current magazine of the period, and

given by me to the Ontario Medical Library Association, now the Academy of Medicine. It gives you a life-like and characteristic representation of Drs. Widmer (chairman) Herrick, with his thumb over his shoulder, King, Bovell and Workman.

From Robertson's Landmarks we learn that the first hospital was built in the grounds bounded by King, Adelaide and Peter and John Streets. Its erection was superintended by Dr. Grant Powell, and it was built largely with money raised by subscription. The building was a two-story one, and a plate representing it will be found in Robertson's Landmarks. In 1824, after the Parliament House had been burned, the legislature met here during the time of the terrible cholera epidemic of 1847, which scourged the people. The hospital was taxed to its utmost capacity, and many horrible scenes were witnessed. Several prominent medical men lost their lives. In 1850, we learn that there were about one hundred patients in the institution. It was endowed with land within the city limits and had also a grant from the legislature. After the hospital was removed to the present site the original grounds were built on, and what was subsequently called the Bridal Row occupied the King Street front next to John Street. I remember this row quite well; it was subsequently altered and now constitutes the Arlington Hotel. The present building is, as you know, situated on Gerrard Street East, bounded by Gerrard, Spruce, Sackville and Sumach Streets. At a subsequent date a fever hospital and an eye and ear infirmary were added. The eye and ear infirmary was built by money obtained through the death of Andrew Mercer. He left no will and his property fell into the hands of the government of the day. The fever hospital was built by two or three large subscriptions. Later on the Burnside Lying-In Hospital was removed from Richmond and Sheppard Streets to the north-west angle of the hospital grounds, and later still the present pavilion for women was erected as a convalescent home and then converted into a gynecological department.

It appears that there were petty jealousies of one kind and another; it was felt that a certain ring had too much power, and in 1836 an onslaught was made in an effort to manage hospital affairs on a broader basis. A resolution passed at that time was as follows: "That it is the opinion of this meeting that over the Hospital of this city a veil of obscurity impends which it is highly advantageous to have removed. No appointed days await the atendance of the medical men in connection with the institution. No published reports inform the public of the number of those who have been restored to their friends cured of their infirmties; the passing bier alone affords a melancholy proof that the institution still exists in active operation." I take this sentence from the excellent address to the Toronto Clinical Society,

by Dr. Anderson, "On The Evolution of Medicine in Ontario." Politics were very much mixed up in this attack, and Drs. Rolph and Baldwin were foremost in the fight. Rolph was undoubtedly a very remarkable man, but I should judge overbearing and dictatorial. He was originally an able lawyer, and becoming dissatisfied with what he considered an unjust decision, he studied medicine and passed the Medical Board in 1829, at the age of 40. The private medical school established by him in opposition to the newly-created medical faculty of King's College, afterwards became the Toronto School of Medicine. The Medical Faculty of King's College, in 1843, was constituted as follows: Surgery, Prof. Beaumont; Medicine, Prof. King; Physiology, Prof. Gwynne; Materia Medica, Prof. Nichol; Chemistry, Prof. Croft; Obstetrics, Prof. Herrick; Med. Jurisprudence, Prof. O'Brien; Anatomy and Curator of Museum, Prof. Sullivan.

Dr. James H. Richardson tells us that Beaumont's lectures, prepared with great care, were delivered to him alone, but that each of them wore academic costume during the recitation. And this was the faculty severed from the University to be re-united again in 1887, and to be followed by the amalgamation of our two universities, Toronto and Trinity, in 1903. Among the men I remember very well was Dr. Hodder; he died during my term as interne at the General Hospital, and to the amusement of my fellows of the interne staff I published a little versification that, to my mind, at any rate, at that time represented his character. I give but two of the four verses and trust you will spare my blushes:

Our sphere has seen no brighter, truer man
  Than that bright star which lit a world of doubt,
A fire fanned by a gentle breeze from heaven,
  Which flickered, faded, fluttered and went out.

A noble man well read, well taught and one
  Respected by his brothers in his art,
Sweet memory in grief will shed a tear,
  And sighs will come from many an aching heart.

Dr. Hodder commanded universal respect, and was the first here, as far as I know, to undertake ovariotomy. As this was in the days before antiseptic and aseptic surgery, the operation was an extremely hazardous procedure. He was an enthusiastic yachtsman and commodore of the Royal Canadian Yacht Club. I remember his residence quite well; he lived on Queen Street, in a large, double two-story house. Dr. Bovell was early attached to the hospital, and a favorite with all who knew him. His chief strength lay in his ability as a diagnostician, but he was like many a doctor, unfortunately, no business man. Later in life

he was ordained in the Episcopal Church, and removed to the Island of St. Thomas, of the West Indian Group.

Among the older men of that time was Dr. Philbrick. He lived and died in what was then called Yorkville, now the northern portion of the city. My father, as a young practitioner, had many consultations with him, and as I drove about with my father while making his rounds, I came frequently in contact with Philbrick as well as with Hodder, Nichol and Workman among the older men. Philbrick was shaggy, unkept, and though an able surgeon, was not of the modern aseptic type. He was a convivial companion, well read and interesting, though afflicted with deafness.

Another practitioner who held many inquests at the hospital, and is not often heard of now, was Dr. Riddell, who lived on George Street. He was afflicted with squint that was detrimental to his appearance, but intellectually he was a bright man. He was for a long time looked upon as our one ablest coroner, and living near my father's house, I saw him frequently and knew him well. I remember, as a boy, being very much shocked at a remark he made when asked by some inquisitive busybody, "if his sins had been forgiven," when he replied that, "he would easily wash them out with a scrubbing brush." He had a good heart, and his bark was much worse than his bite. Originally a printer, he deserved much credit for putting himself through. As he left Rolph's School of Medicine to finish elsewhere, Rolph, as a member of the Medical Board, endeavored to castigate him by refusing to sign the certificate upon which the diploma would subsequently issue. The matter was later straightened out by the strong hand of the President of the Board, Dr. Widmer, and Riddell was granted a license. He was one of the health officers of the city. One of the best surgeons on the staff at that time was Dr. Norman Bethune. He was the son of a Hudson Bay factor, and made a trip to Hudson Bay as a surgeon to one of the Company's ships. He practised for a time in Edinburgh and then removed to Toronto, where he remained to the time of his death. He was full of quiet humor and, as you can see by the sketch presented, he excelled as a caricaturist. I knew him quite well and had a very great admiration for him. He was not blest with wealth, but he had the happy nack of talking little and minding his own business. He was more difficult to know than many of the others with whom I was associated as hospital interne and afterward as a fellow practitioner, but he was absolutely reliable from a professional point of view, and he had an ever-ready kind word for the struggling young practitioner. Dr. John Small was on the visiting staff in my time. He and my father were well acquainted, as were our families. He had a large and fashionable clientele and was looked upon as one of our best consulting

physicians. He had no liking for surgery. I remember a peculiar characteristic, namely, his business-like method of looking after his fee. He would ask for it at the time, and insist upon obtaining it before leaving the house. He had given up his goods and demanded the price, and rightly so, but this did not prevent him from doing much for charity when charity was really needed. He lived at the corner of Church and Queen Streets, afterwards moving to the corner of Simcoe and Richmond Streets, where he died.

Among the surgeons was Dr. W. T. Aikins, an able surgeon and a leader among men. He lectured on surgery in the Toronto School of Medicine and attended on the staff of the Toronto General Hospital. At that time there was no division of service and the members of the staff were general practitioners, until a later date when, under the regime of Dr. C. O'Reilly, the services were divided into medical and surgical. Dr. Aikens lived on Queen Street West, near Terauley, and afterwards built a fine residence on the corner of Jarvis and Gerrard Streets, where the medical students of that time frequently partook of his generous hospitality. He was looked upon as the ablest surgeon in this part of the country, and was undoubtedly well in advance of his time. I knew him as a student, as an intimate friend of my father, and as I look back at this distant date, it gratifies me to see him stand out head and shoulders above his contemporaries in his department. His many friends learned with deep regret of his financial losses during his later years, but he never flinched, and died like a man with his face to the foe.

Another of the old teachers was Dr. H. H. Wright. Our families were on intimate terms, and owing to the proximity of our houses and the absence of telephones, there were frequent exchanges of professional courtesy between my father and Dr. Wright. Dr. Wright lived on Queen Street East, in the house vacated by Dr. Workman, after the latter's appointment as Superintendent of the Lunatic Asylum. Dr. Wright lectured on medicine in the Toronto School of Medicine and was for many years on the staff of the Toronto General Hospital. It was difficult to get very close to him, as he was wrapped up in the study of his profession, but notwithstanding his reserve, he was a man with a kind nature and a warm heart. He abhorred surgery. His lectures were excellent, though dry, and the tersely-arranged matter suffered from the peculiar manner of delivery. He was a fair fighter and was always scrupulous in his observance of the rules of medical etiquette. He lived to a very ripe old age. Following in his footsteps came a favorite teacher, James E. Graham. He studied in Toronto about 1868, and occupied the professorship of medicine in the University of Toronto from 1887 to 1889. No medical man in Toronto was held in greater

esteem by his fellow practitioners. He was of a quiet, retiring disposition. Tyndall has well said, "that without honest labor there can be no true joy," and indeed all that was achieved by James E. Graham was accomplished by honest labor, and he was rewarded by true joy. Happy in his family and in his home, enthusiastic in regard to everything that pertained to his beloved profession, he was at last rather suddenly taken away from a host of sorrowing friends. We all loved him and will keep his memory green in the years to come.

One of his intimate associates for years and also in the school, and an active member of the staff of the General Hospital, was Dr. L. McFarlane. He was genial and bright, but was disappointed owing to the fact that he had no family. He was a great favorite with the students, easily approached, and with a kindly disposition. His death was a tragic one. His life was sacrificed in an endeavor to save the life of a man who was ill with frost-bitten feet—a punctured finger, septicemia and death.

Another well known figure at that time was Dr. Thorburn, who lectured on Materia Medica and served on the staff of the General Hospital. Many of you here knew him, as it is but a short time since he passed away. He enjoyed a large practice for many years, and retired with a competency. He was businesslike in his methods; and a large attendance of the members of the profession at his funeral showed the marked esteem with which he was regarded.

One of the well known figures of that day was Dr. Workman. Long before I studied medicine he was placed in charge of the Lunatic Asylum. That was in the year 1854, and in the year in which I entered medicine, 1875, he entered into private life to enjoy well-earned repose. As he had transferred a large portion of his practice to my father in 1854, I saw a good deal of him, as our families were intimately acquainted. He was for many years a frequent visitor at the Toronto Medical Society, of which he was the first president. This society met at that time in the building of the Canadian Institute on Richmond Street, between Church and Victoria. Dr. Workman completed his course at McGill, but came to Toronto to attend to some business matters. After a time he longed to go back to his first love, and as Dr. Rolph was anxious to get him as a teacher in his school, he offered him the lecturship of midwifery and diseases of women and children, and in 1846 Dr. Workman accepted this offer. He was a member of the Medical Board, and can be readily distinguished in the sketch by Dr. Norman Bethune previously alluded to. He died in 1894. In 1896 his portrait was painted, and for years adorned the Meeting Room of the Toronto Medical Society, and now graces one of the walls of the

Academy of Medicine. He was respected and esteemed by all who knew him.

In 1850 I find that the attending physicians of the Toronto General Hospital were, Widmer, King, Telfer, O'Brien, Herrick and Beaumont. The resident surgeon was E. Clarke. During the winter sessions clinics were given twice a week, by Drs. King and Beaumont. In speaking of the General Hospital and mentioning the Burnside Lying-In, we naturally say, "Who was Burnside?" In looking up the records I find that he was a large-hearted Yankee quack, and promoter of the Mechanic's Institute, now the public library, an encourager of church music, and a man who died without a family, left all to charity, and nearly all to Trinity University. After having been refused a license by the Medical Board, he was ultimately found, two years later, qualified to practice and granted a diploma. Though an ignorant man, he was undoubtedly a money-maker. In St. James' cemetery is a tombstone erected to his memory by Trinity University, and Dr. Richardson draws attention to the fact that the inscription has rather an ambiguous termination, stating that "he is gone, *we trust*, to a better place."

In 1878, six internes were appointed for service in the General Hospital, viz., J. W. Lesslie, Gerald O'Reilly, J. F. W. Ross, W. Lehmann, R. A. Ross, R. M. Stephen. Stephen and R. A. Ross have crossed the bar. At that time the Hospital was not what it should have been. Dr. C. O'Reilly, of the Hamilton Hospital, had but recently taken charge as Medical Superintendent, and he was forced by circumstances to make haste slowly. There were no trained nurses at that time, and I have still a very vivid picture in my mind of Mrs. Fogarty and Mrs. Pyne, two matronly women in charge of important departments, who have been some time deceased. "De mortuis nil nisi bonum," and yet in such a sketch it is difficult to follow on the march of progress without treading on someone's corns. But we must tread lightly. Enough of misery was caused to me by a youthful effusion called the Model Hospital, and published in the *Canadian Journal of Medical Science*, in 1881. From the time that the paper was written until a few weeks ago I never saw it in print. Let me read from it, and you can then judge of the prophesy:

"Among the newest discoveries has been that of a city in the desert of Sahara. Here, beneath this waste of sand, in this most barren of all lands, have been found the ruins of the once flourishing city of Otnorot, destroyed, it is supposed, by the sudden rising of the waters of the lake Oiratno, on whose shores it was built. It was famed for its 'Model Hospital,' an institution which had a small beginning, which was the incubator of many an acrimonious quarrel and party struggle, but which at length

attained, through its dearly-bought experience, a place in the foremost rank. Having obtained some scraps of its history, from papers recently disentombed from the ruins, I thought that they might prove of use and interest to some of your readers.

"In the 'Model Hospital's' immediate neighborhood flourished two medical schools, the Otnorot and Ytinirt, famed for their bitter hates and party jealousies. Neither took any interest in anything concerning the Hospital, and seemed (human nature to this day), chiefly interested, and were, perhaps, entirely interested, in the financial success of their individual undertakings.

"Then, too, the managers were too prone to look upon the Hospital as a place solely for the care of patients, and to forget the duty of teaching students to whom, as the medical practitioners of the future, the lives of their children and their grandchildren must be entrusted.

"At this Hospital, it was a rule that members of the visiting staff could not resign until they had served for at least thirty years; as a consequence, young men received no encouragement to work hard, and a sad lack of enthusiasm pervaded the clinics. The old 'fogies' were often unable to attend on their appointed days, owing to a severe attack of rheumatism, or, because they could not miss the chance of performing a certain operation, for which they were to be handsomely paid. These old men were so occupied with private practice that they had no time to read any new pamphlets, which were written in those days, not printed. If, in the hospital, a student, more eager than his fellows, wished, from personal observation, to learn what his teachers would not take the time to teach him, he was prevented from doing so by the rule that 'no student is allowed in the wards unless accompanied by some member of the staff,' for fear that he might disturb the homelike quiet of the ward, or the day dream of some nursling of charity.

"But at last a change came. The young men did not try —for it was a sore trial—they did not try to study medicine at home, but went abroad where hospitals were conducted differently. They returned home with the new ideas, and, reasoning as they did, any one unprejudiced must have coincided with them in their arguments. Every one was convinced, and even the impressionable trustees saw their faults and began to remedy them. The result was the formation of the 'Model Hospital,' and 'the Hospital Medical School.' The rule about the thirty years of service was changed and no one was allowed to remain on the acting staff for more than ten years. The old 'fogies' were shelved on the consulting staff, and deserving eligible young men were put in their places. These young men had been prom-

ised the positions and had gone abroad for several years to fit themselves for them. A physiological laboratory, a pathological laboratory and a chemical laboratory were built, and the university professors in the several branches conducted these institutions. All members of the hospital staff were nominally professors of the university of Otnorot.

"The medical school in connection with the hospital was a great success. The rival institutions soon closed their doors, and freely acknowledged that there was in Otnorot only enough talent to conduct one good school. The young lecturers in the new school were all trained abroad, each for his special branch. Lectures on chemistry and physiology were given in their respective laboratories. Anatomical lectures, pathological lectures were given, and dissections were made in the pathological laboratory. If a vacancy from any cause seemed probable, a young man was led to believe that if he went abroad and prepared himself he might obtain it. Acting on this he started for some foreign university. Thus a good school was kept up, so much so that finally one could study better at Otnorot than in cultured and civilized Europe. None of the medical assistants received any salary, and none wished for any; yet, there was always a surplus of candidates for office. The matron's salary was increased, as was her assistant's. The hospital was considered perfect in every respect, and well deserved the world-wide reputation the 'Model Hospital' obtained."

And now to return. The nursing was not such nursing as we have at the present time. These good-hearted women were about on a par with our present ward tenders. They had no lectures, no education, and no training school. A change was gradually brought about, and one of the finest training schools to be found anywhere was established. Whether it is keeping up to its high water mark or not I cannot say, but I hope that nothing will be allowed to interfere with the continuance of the high standard. The hospital improved step by step under the able management of Dr. C. O'Reilly. Those who were brought into contact with him and his work know what he accomplished. But we all weary of well doing, and such continual strain will wear down the strongest, and he wisely decided to take a well-earned rest. New blood was then instilled into the Board and into the internal management, and further changes are wisely contemplated in the personnel of the staff. Young men should undoubtedly be advanced, and other things being equal the trustees should pick from their own brood, the brood they have nurtured and instructed. They know better the young men they have trained than those trained elsewhere. And let me say to you that this very organization should begin to exert an influence to-

wards accomplishing this end. And now we can feel that the modern hospital of the Sahara Desert has about arrived, at any rate it is long over due. And, finally, let me say to you, cherish the old institution that has done so much for us, and to which we one and all owe more than we can repay. Faint praise is sure condemnation; but does she require any faint praise? Most assuredly, "No." A parent may love and chide; we may cherish, may reverence, and yet be ready to oppose with all our strength any innovations that we feel will be a source of weakness to our dear old Toronto General Hospital.

The toasts of "The King," "The Retiring President," "The Oldest Ex-House Surgeon," "The Youngest Ex-House Surgeon," and "The Officers Elect" were drunk with enthusiasm.

Speeches for the good of the Association were delivered by Dr. Meek, of Port Dover; Dr. G. Royce, of New York; Dr. Barnhardt, of New York; Dr. Meikle, Mount Forest; Dr. D. Anderson and others.

Telegrams of regret were received from Dr. Gerald O'Reilly, of Galt, and Dr. Thos. Cullen, of Baltimore. Letters of inability to attend and of regret were read from Dr. Chas. M. Stewart, London, Eng.; Dr. H. C. Scadding, Toronto; Hon. Dr. Pyne, Toronto; Dr. J. E. Jenner, Leamington; Dr. Chas. Ardagh, Kingsville; Dr. J. H. Radford, Galt; Dr. J. W. Lesslie, Toronto; Dr. T. H. Middleboro, Owen Sound; Dr. J. Third, Kingston; Dr. W. D. Scott, Peterboro; Dr. Burr, London, England; Dr. P. E. Doolittle, England; Dr. Barber, Kingston; Dr. C. D. Parfitt, Gravenhurst; Dr. McPhedran, Stroud; Dr. T. S. Cullen, Baltimore; Dr. Roland Hill, St. Louis; Dr. T. H. Stark, Toronto; Dr. F. A. Cleland, New York; Dr. L. F. Barker, Baltimore; Dr. A. C. Hendrick, Toronto; Dr. Devitt, Grand Forks, N.D.; Dr. Chas. White, Woodstock; Dr. Fredk. Brodie, Cobalt; Dr. J. N. Harvie, Orillia; Dr. F. A. Bethune, Emo; Dr. R. Parsons, Red Deer, Alta.; Dr. A. B. Rutherford, Owen Sound; and Dr. G. H. Field, Cobourg, Ontario.

Dr. M. Stewart, Collingwood, and Dr. O. E. McCarty, Niagara Falls, deceased.

THE AMERICAN HOSPITAL ASSOCIATION HELD ITS NINTH CONFERENCE IN CHICAGO ON SEPT. 17, 18, 19 and 20th.

There was a large attendance. Canada was represented by eighteen delegates, mainly from Ontario. The Toronto hospitals were represented by John Ross Robertson, Esq., and Miss Brent, of the Sick Children's Hospital; Miss Patton, of Grace; Miss Grey, of the Hospital for Incurables; and Dr. J. N. E. Brown, of the

General. Dr. Bruce Smith, Inspector of Hospitals, also was present, and read a paper on "Waste." Dr. Brown read a paper entitled, "An Inoculation and Immunization Department." Dr. M. Webster, Superintendent of the Royal Victoria, Montreal, replied to the address of welcome. Through the influence of the Canadian delegation, the Association will meet in Toronto next year, during the last week in September. Mr. John Ross Robertson is Vice-President.

Other papers on the programme were the following:

1. "Relative Authority of the Superintendent and Staff in the Control and Discipline of Patients," Miss Louise M. Coleman, Boston.

2. "The Layman's View of Hospital Work Among the Poor," Miss Jane Addams, Chicago.

3. "Hospital Support and How to Secure it," Rev. A. S. Kavanagh, Brooklyn.

4. "Breakage and Loss and How Far Should Employees be Held Responsible," Rev. M. Wahlstrom, Chicago.

5. "An Experience with Floors," Dr. W. O. Mann, Boston.

6. "A Comparison of Hospital Pay Rolls, Employees, their Selection and Management," Mr. Asa Bacon, Chicago.

7. "The Organization of a Teaching Hospital," Mr. E. S. Gilmore, Ann Arbor.

8. "Some Suggestions for the Organization of Out-Patient Medical Work," Dr. Richard C. Cabot, Boston.

9. "Waste in Hospitals," Dr. Bruce Smith, Toronto.

10. "The Modern Hospital Hotel," Mr. Louis R. Curtis, Chicago.

11. "The Reaction in Training School Methods," Mr. Geo. P. Ludlam, of New York.

12. "The Work of an Inoculating and Immunizing Department," Dr. J. N. E. Brown, Toronto.

13. "Management of the Race Question in Hospitals," Dr. Eugene B. Elder, Macon, Georgia.

The report of the committee on hospital progress will include the following:

(*a*) "Hospital Finance, Hospital Efficiency, and the Economics of Administration," Dr. S. S. Goldwater, New York.

(*b*) "Hospital Construction," Dr. G. H. M. Rowe, Boston.

(*c*) "Training of Nurses," Miss Mary L. Keith, Rochester, N. Y.

(*d*) "Medical Organization and Medical Education in Hospitals," Dr. J. A. Washburn, Boston.

THE INTERNATIONAL CONGRESS OF PHYSIO-THERAPIE.

Dr. Wm. Benham Snow, New York, Secretary of the American Committee of the International Congress of Physio-Therapie, requests the publication of the following notice: The Committee of the Congress to be held in Rome next October for the consideration of physical remedies in the treatment of diseases, have arranged special transit facilities for members of the Congress and their families with the following companies: Societa Veneziana di Navigazione a Vapore, La Veloce, Lloyd Italiano, Navigazione Generale Italiano.

The last named have agreed to a reduction of 30 to 50 per cent. The advantages proffered by the other companies can be learned through any transportation agency. The Committee have also arranged an especially favorable tariff for their visitors at the best hotels in Rome and other Italian cities, to which excursions will be arranged at very reduced prices. The Secretary of the Congress is Prof. Carlo Colombo, Via Plinio, Rome.

THE SIXTH INTERNATIONAL DERMATOLOGICAL CONGRESS.

The Sixth International Dermatological Congress was held in New York from September the 9th to 14th, at the New York Academy of Medicine. The number registered was about three hundred, which compares most favorably with the attendance at any previous Congress.

The number of foreigners present was not very great, especially from England, the great majority of those present were from the United States.

Dr. H. Radcliffe-Croker, Dr. Arthur Whitfield, and Dr. Taylor represented the dermatologists of England.

From the continent came Prof. R. Campana, Dr. Neuserger, Prof. E. Gaucher, Dr. H. Hallopeau, Prof. E. H. Hoffman, and many others.

America was well represented, many of the leading dermatologists being present, such as Hyde, Fordyce, Gilchrist, Stelwagon, Pusey, Montgomery, Ormsby, Morrow, White, Fox, Keyes.

Canada had a delegation of five, Shepperd, Van Eberts and Burnett, Montreal; and Chambers and King Smith, of Toronto.

The clinic, held on three of the mornings, from 9 till 11, was exceedingly interesting, many of the foreigners stating that they had never seen a more interesting lot of cases, some very rare

diseases were exhibited, such as Darier's disease. Some splendidly-marked cases of Leprosy were shown.

An exceedingly interesting demonstration of the application of liquid-air in certain conditions of the skin was carried out by S. Dade, of New York. Some of the results in nævi-moles were most brilliant.

The Opsonic Method in Skin Diseases was presented by Dr. Arthur Whitfield and Dr. Van Eberts—the discussion of the papers was brief, the general idea being conveyed that the results, except in furunculosis, have been rather disappointing.

The arrangements of the Congress were perfect; everything was carried out on time, even at the early hour of nine o'clock the attendance was large.

The social side of the Congress was carried out most lavishly, many of the New York physicians gave private dinners and luncheons; the entertaining was not confined to New Yorkers, for many of the visitors also had dinners, in fact the kindness shown to visitors from abroad could not have been surpassed.

At the final session, on Saturday morning, the attendance was very large, and the consensus of opinion was that the closing Congress was most successful in every way. D. K. S.

Recovery from Exophthalmic Goiter After the Use of Antithyroidin.—M. L. Abelmann, of the Elizabeth Children's Hospital of St. Petersburg, after giving a short resumé of the work done by others with Moebius' serum, of antithyroidin, in the treatment of exophthalmic goiter, reports the history of a striking case which came under his own observation. The patient was a girl only thirteen years old—a very young patient to suffer from this disease. The father had exophthalmic goiter and died at a comparatively early age. The child was of medium size and weight; the skin was clear, although she was somewhat anemic. Syphilis and tuberculosis were denied in the family history. The symptoms of Basedow's disease were all characteristic: exophthalmos, Stellwag's sign, von Graefe's sign, and Moebius' sign. There was a marked thyroid tumor, being 9 Cm. across. The pulse frequently was raised from 130 to 150. The patient was placed upon antithyroidin, with beginning doses of 2 drops t. i. d., gradually increasing until 12 drops were given three times daily. At the end of three weeks the clinical picture had markedly altered. The patient became much quieter, the tachycardia disappearing completely. The exophthalmos diminished, so that the bulging of the eyelids was scarcely perceptible. The goiter had also disappeared. Stellwag's and Moebius' sign had also disappeared; von Graefe's sign persisted somewhat. The patient recovered completely.—*Russki Vratsch*, Sept., 1906.

The Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the first of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the fifth of the preceding month. London, Eng. Representative, W. Hamilton Miln, Thanet House, 231 Strand, WC. Agents for Germany, Saarbach's News Exchange, Mainz, Germany.

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Editorials.

THE VALUE OF ATOXYL IN THE TREATMENT OF SYPHILIS

FROM recent researches by syphilographers it appears that mercury destroys, by its direct action, the spirocheta pallida, the reputed causative agent of syphilis. It is also claimed that the spirocheta is the causative agent of relapses in this disease, and that it persists for a long time in the human organism, preserving all its proliferative powers. This last doctrine is confirmative of the soundness of the chronic intermittent method of treating syphilis,

established by Fournier, which, however, up to the time of the discovery of the spirocheta pallida as the etiological factor of syphilis, rested on purely speculative considerations.

Another question, much discussed up to the present time, was as to the proper time to begin the general treatment of syphilis. The majority of syphilographers agreed in waiting for the appearance of secondary symptoms, because it was often at that time only that the diagnosis of syphilis could be confirmed, and also because it was supposed that prior to that time the syphilitic virus had not invaded the whole organism, and that, consequently, it was useless to pretend to control the disease by general medication. To-day this opinion cannot be maintained any longer, as it has been demonstrated that the monkey can be inoculated with syphilis from the blood of patients recently infected with that disease.

Observers, however, have gone still further afield in their search for antisyphiltic remedies, or, in other words, for agents capable of destroying the spirocheta pallida. They have taken it for a proved fact that the spirochetes belong to the class of protozoa, and that there are chemical substances which act energetically on protozoa in general. Uhlanlut, depending on the results obtained in trypanomiasis by the use of atoxyl, the sodium salt of amido-phenyl arsenic acid, tried this drug on several occasions with success in the treatment of the spirillosis of chickens. From this result the notion grew that atoxyl might also be employed in treating syphilis, which is believed by many observers to be caused by the spirocheta pallida, a protozoon.

At a meeting of the Berlin Society of Internal Medicine (June 10, 1907), Dr. E. Lesser reported the results obtained at his clinic from this new method of treating syphilis. He had treated 28 cases; 22 males and 6 females; 3 primary infections, 19 in the secondary stage, 5 cases of galloping syphilis and 1 of tertiary syphilis. At first his results were negative. Attributing the unsatisfactory results to the smallness of the doses given (0.20 gramme pro die to each patient), larger doses were given with satisfying results. Of the 28 cases, 16 had never received mercurial treatment. To all of them atoxyl was given in intramuscular injections, in doses of 0.50 to 0.60 gramme in males, and 0.40 gramme in females. At first the injections were given every second day, afterwards every third day. The total amount

of atoxyl injected into each patient in no case exceeded 6.20 grammes. The symptoms of syphilis manifestly receded during treatment; but whether the results would be transitory or durable Dr. E. Lesser could not say. He would not be at all surprised if at the expiration of a longer or shorter interval of time, fresh syphilitic manifestations would appear in these patients. A good many years, he thought, would have to pass e'er one could speak authoritatively as to the real value of atoxyl in syphilis. At the present time, however, he was prepared to say that some important inconveniences had resulted in some of his cases: gastro-intestinal disorders in over 50 per cent. of the cases, 1 case of nephritic disease and 1 case of cystitis. In the majority of his patients a distinct increase in weight had been observed during the treatment.

Dr. F. Blumenthal, who followed Dr. E. Lesser, stated that he had made the toxicological study of atoxyl, which served as a basis for Dr. Lesser's therapeutic applications of the drug. He had proved that atoxyl remains in the organism for a longer time than the other arsenical compounds. On the other hand, however, he could not agree with an opinion expressed by some observers that the administration of atoxyl caused the formation of aniline in the organism, and that this serves as an explanation of the toxic accidents traced to its use. He added that atoxyl had been found only in the blood and bones of the patients, and never in their other organs, unless introduced in enormous doses.

In France, of late, atoxyl has been boomed in the treatment of syphilis. In Paris it has been written up in the lay press, with the result that atoxyl has been pretty generally discussed by the inhabitants of the gay capital. French syphilographers, however, have weighed it in the balance and have found it wanting. At a meeting of the Société Francaise de Dermatologie et de Syphiligraphie, 5 Juillet, 1907 (Vide la Presse Médicale, 13 Juillet, 1907), Dr. Hallopeau presented several syphilitic patients whom he had treated with atoxyl. In spite of some successes, toxic results had supervened in several of his cases. Diseases of the eye were quite common after he had employed some brands of the drug.

In discussing the paper, Dr. Lenglet remarked that the only patient, the bearer of cutaneous lesions, who had been presented to the Society showed such intense pigmentation of those parts

of the skin where syphilides existed that great caution should be exercised in the therapeutic employment of a drug, which left undoubted marks of its passage, and which, so to speak, writes the diagnosis of syphilis on the patient's skin. Dr. E. Fournier had had occasion to see several patients whose ocular lesions had been made worse by injections of atoxyl. Another patient continued to have mucous patches after the sixth injection of atoxyl had been given. Several other members of the Society spoke in equally uncomplimentary terms of atoxyl. So that we in Canada who have not had the opportunity of injecting it into our patients may calmly reserve our fire, and continue to pin our faith to the old reliable specific remedies for syphilis, which we have been in the habit of using. J. J. C.

THIOSINAMINE AS AN AGENT FOR SOFTENING SCAR TISSUE.

The specific property of thiosinamine to soften scar tissue, which is thereby rendered amenable to mechanical treatment, has been discussed in the medical press by several writers. A summary of some of the more important observations on this agent appears in the "Medical Annual" for 1907. A good article containing fresh data is published in *La Presse Médicale,* June 22, 1907, by Drs. Lermoyez and Mahu. Thiosinamine is an allyl-sulphocarbamide, obtained by the action of ammonia on essence of mustard. Its taste is bitter; it is not irritant. Its brilliant, white crystals are with difficulty dissolved in cold water, more easily in hot water, and quite easily in alcohol. However, the hypodermic injection of an alcoholic solution of thiosinamine is quite painful, and should not be used. Fibrolysin, prepared by Merck, contains one molecule of thiosinamine to half a molecule of salicylate of sodium, and dissolves easily in water in the proportion of 15 per cent. Michel, of Paris, has perfected the rapid solution of thiosinamine by the addition of antipyrine. Half a molecule of antipyrine united with one molecule of thiosinamine forms, at ordinary temperatures, a syrupy, colorless, odorless liquid, which dissolves in three parts of water. Drs. Lermoyez and Mahu employ the following 15 per cent. solution and do not find it irritating or painful:

Thiosinamine	15	grammes.
Antipyrine	7-50	"
Distilled water	100	"

The elective action of thiosinamine is thus explained by Glass. It produces edema in scar tissue. For instance, in a case of fibrous stenosis of the larynx, of syphilitic origin, which had not caused inconvenience for some considerable time, so much swelling of the pathological tissues ensued, after four hypodermic injections of thiosinamine that tracheotomy had to be hurriedly performed to save the patient from asphyxia. The action of thiosinamine is comparable with the venous stasis produced by Bier's method, interstitial edema and softening being produced.

According to Doliker, thiosinamine, four hours after its administration, produces marked leucocytosis, the leucocytes abounding in the scar tissue and acting on the connective tissue like phagocytes.

Though it softens scar tissue, thiosinamine does not destroy it. Its effects are rapid, and may be observed often in four hours, but they are of a passing nature, and disappear in a few days after the cessation of the injections. It is only an adjuvant to mechanical treatment, which should be employed to stretch scars rendered extensible under its influence. By associating the two therapeutic agents lasting cures of stenosed natural passages may be obtained. Thus in 1900 a lady patient of Fraenkel's, who had a fibrous structure of the esophagus, was unsuccessfully treated with bougies. Von Hebra afterwards gave this patient ten hypodermic injections of thiosinamine in twelve days, but also without curative result. Dilatation of the esophageal structure with bougies was then resumed, with the happy result that the patient was enabled to partake of food in the ordinary way. When examined by esophagoscopy, in 1902, it was found that instead of scar tissue, the smooth, reddish mucous membrane of the esophagus was observed.

Thiosinamine is not toxic, for Van Horn treated two female patients during 15 months, using, twice or thrice a week, a cubic centimetre of a 15 per cent. alcoholic preparation solution of thiosinamine on each of the patients. Urbantschitsch gave to a patient every second day a series of 20-30 hypodermic injections. Beginning with a dose of half a cubic centimetre of the 15 per cent. solution, the formula of which is given above, an operator may rapidly reach a dose of two cubic centimetres. When improvement is noted, the treatment should be suspended at the tenth injection, otherwise one runs the risk of producing over-relaxation of scar tissue.

A slight sense of heat is noticed by the patient after a hypodermic injection of the watery solution given above; this disappears in about five minutes. The skin at the seat of the injection becomes mottled with a blue and yellow stain, which disappears after a few weeks' time. Sometimes, at the spots where the punctures have been made, painless nodules appear after the tenth day, and they do not disappear for several months. These nodules are caused by the rapid crystallization of a part of the injected liquid, but they behave like aseptic foreign bodies. However, as the drug has no bactericidal properties, its solutions should be sterilized before use.

The influence of the hypodermic injection of thiosinamine on a patient's general condition is unobjectionable. Some complain of slight headache or a passing sense of fatigue. Contrariwise, others experience a sense of well-being and an improved appetite. Judgment should be used in the selection of cases for its use. Teleky mentions the case of a young man who had stricture of the esophagus and upon whom a successful gastrostomy had likewise been performed. Some weeks after he had recovered from the effects of the abdominal operation, thiosinamine was tried prior to the dilatation of the structure of the esophagus. The esophageal stenosis was easily dilated with bougies, but a fatal condition resulted from the rupture of the artificial fistula made in the patient's stomach.

Neither should thiosinamine be employed in tubercular cases, for von Hebra has seen an old-time tubercular caries fanned into life under its influence, and apyretic tubercular lesions developed into febrile ones. Neither should it be used when there is a suspicion of a malignant growth, in view of the fact that the opening of the lymphatic vessels exposes the patient to the risk of metastasis.

Thiosinamine was brought to the notice of the medical profession in 1892 by von Hebra, who used successfully a 15 per cent. alcoholic solution of it to soften the scars succeeding lupus. In the following year Latzko obtained equally satisfactory results. It was then applied successfully to the dilatation of urethral strictures by Hank. Richter employed it in similar cases, but failed because he depended on thiosinamine alone, without the aid of dilatation. Unna employed it in the treatment of keloids. Latzko and Kalnicruth in pelvi-peritonitis. Teleky obtained excellent

results from it in the treatment of fibrous structures of the esophagus. Lermoyez and Mahu speak favorably of its effects in the treatment of certain forms of deafness arising from adhesive otitis, catarrhal or cicatricial.

In suitable cases of deafness the following technic is recommended: Every evening, before retiring, the patient takes an ear-bath, lasting about five minutes, of a warm solution of thiosinamine-antipyrine. Twice a week he visits the aurist, who practices pneumatic massage of the tympanum. Should this treatment fail to relieve the patient's deafness, the aurist employs tubal injections of the above solution. Good results have been obtained in deafness of three different types: (1) Adhesive otitis resulting from a dried-up otorrhea; (2) adhesive otitis, a sequel to repeated tubo-tympanic catarrh; (3) adhesive otitis, a sequel to erysipelas of the face, which extended into the ear. In the opinions of these authors, neither the thiosinamine-antipyrine solution alone, nor mobilization alone, is capable of producing curative effects of an enduring character in such cases—the association of the two therapeutic agents is required. J. J. C.

THE MONTREAL MEETING OF THE CANADIAN MEDICAL ASSOCIATION.

To write the word success is ever a pleasurable task, to inscribe the word failure is a sad and cumbersome duty. As "a half-a-truth is ever the blackest of lies," let us tell the truth as far as may be, "yet hitting no foul blow." Who runs may read—the 1907 meeting of the Canadian Medical Association, held at Montreal, was not a great success. Whose fault was it? Certainly not the fault of Dr. Roddick and his confreres, nor of those few elect members of the Association in Montreal who did their utmost to welcome and entertain their physician guests. The blame does lie at the door of every member who, like the darkey, Sam, said about the invitation to the party, that "He was sont for to went, but the gwyin' was so bad that he couldn't came." To create atmosphere or good stage setting for the few "lonelies" who foregathered, "The days were dark and dreary."

It rained, and the wind was never weary—and in Montreal it has to rain in two languages, French and English, and, of

course, that takes time, and so the rain lasted during the entire meeting. It seemed to depress everyone, and no one had any incentive to enthusiasm, for the little band of the faithful were, to some extent, without the compelling inspiration of a Master. Outside of the resident physicians of Montreal, about 125 members registered. Surely a shame to have to consider, when we remember that over eleven hundred Canadians registered last year at the British Medical Association meeting in Toronto. Has inspiration dropped to zero? Truly an early frost, and a long winter of discontent for the officers of the Association if some greater interest does not manifest itself at next year's meeting at Ottawa.

The report of the Committee on reorganization was adopted, with an amendment postponing rather indefinitely the publication of an official organ for the Canadian Medical Association. The President seemed to think that no Canadian Medical Journal was big enough, with the weight of a wonderful name, to publish the papers read at the Association meetings. Surely the highest ideal of even the big little men of this Canada of ours is not solely to advertise themselves? The Medical Journals of Canada are "being, and are becoming," and let Dr. McPhedran pause and remember that Kipling himself deemed a waste-paper basket a good enough destination for the poem that half of Christendom calls his masterpiece. The god of fame is ever busy with hook and line searching for the good things that have been thrown into the sea that "the fishes have swallowed."

The address of Dr. Rolleston, of England, was very carefully prepared and showed an exhaustive study of his subject. Dr. Olmsted, of Hamilton, delivered a fine address in surgery. The President's address was admirable, and gave his ideas, and an ideal,—perchance cast the horoscope of the Association? Time will tell.

The 1907 meeting has "folded its pale hands so meekly." There is only to-morrow, with the hope that beckons ever from the future, holding out its prospect of an endless chain of solidarity. Let every delinquent medical practitioner who stayed at home this year "take the high road" and answer to the roll call at Ottawa, where the Association will convene in 1908, under the Presidency of Dr. Montizambert.

W. A. Y.

EDITORIAL NOTES

Massage and the Passive Motion of Fractured Bones.—In a paper read before the Edinburg Medical Society, Dr. Cathcart said that complete rest of the fractured bones was not requisite in seeking for bony union. The slight movements which are caused by massage of the parts and by passive movements seem to accelerate bony union. This treatment also causes absorption of the sero-sanguineous effusion, prevents the formation of adhesions, and strengthens the nutrition of the muscles. Bony union, therefore, takes place rapidly, the injured limb resuming its functions as soon as bony union has taken place. Splints and other retentive apparatus, including such as are used for continued extension, are necessary in order to prevent the union of bones in vicious positions, rather than to prevent defective consolidation of the bones. Hence their use is indicated when, owing to the weight of the limb, or from muscular contraction, the parts are with difficulty retained in the desired position. At the beginning of treatment, massage diminishes swelling of the injured parts and muscular contractions, and it relieves pain. At a later stage, it stimulates the local circulation, removes accumulated blood and serum and prevents atrophy of the involved muscles. For further information on this subject see Keen's Surgery, vol. 7, p. 136.

Cerebro-Spinal Meningitis, Communicated to Children by their Fathers.—At Leith, Scotland, an epidemic of cerebro-spinal meningitis prevailed in May, 1907. Bacteriological examinations of the secretions of the naso-pharynx of the patients and their nearest friends were made by Drs. Frazer and Comrie, and somewhat unusual results were obtained. The diplococcus was sought for in thirteen patients, who had cerebro-spinal meningitis, and was found in only two cases. This result was thought to be due to the difficulty experienced in isolating any microbes in patients who are very ill, and likewise to the fact that the nasal passages of those patients contained an infinite variety of all sorts of micro-organisms. An examination of the nasal secretions of the fathers of the patients showed that the diplococcus was present in 33 per cent. of the men, while only 9 per cent. of the other

relatives (mothers, brothers, sisters, etc.,) had it. Five of the fathers, whose children had the disease, had worked aboard the same vessel. Drs. Frazer and Comrie exposed Petri dishes containing agar-agar in different parts of this vessel and found the characteristic diplococcus in the air of the furnace room. Twenty-three persons who had no contact with the patients were also examined bacteriologically and the diplococcus was not found in any of them. The conclusion arrived at was, that the children who had cerebro-spinal meningitis had been infected through the expectoration or probably through the kisses of their fathers. Disinfection of the nasal passages of the fathers, with a very dilute solution of formol was prescribed.

Syphilitic Disease in the Elbow Joint of a Tubercular Patient Cured by Iodide of Potassium.—At a meeting of the Medical Society of the Hospitals, Paris, July 5th, 1907, Dr. Queyrat presented a woman of twenty, who at ten years of age had had enlarged tubercular lymphatic glands in the neck; the signs of pulmonary disease in her case were not of much account. A year ago she contracted syphilis, for which an energetic mercurial treatment, given in various ways, was administered. In October, 1906, disease in one of her elbow joints having developed, an intensive mercurial treatment was given; in spite of it, however, the affected joint became so swollen and painful that a diagnosis of white swelling was made, a plaster splint applied, and a resection of the diseased joint proposed. Thinking that the disease in the joint might be of syphilitic origin, Dr. Queyrat prescribed for the patient large doses of iodide of potassium. The result was marvellous: the swollen joint diminished in bulk; pain was relieved, and the disease was cured, save that a small fluctuating point remained, which, he thought, might be of a tubercular nature. The case, he thought, was most instructive, inasmuch as it demonstrated the good effects of large doses of iodide of potassium in curing a tertiary syphilitic lesion; besides the iodide of potassium had not caused any inconvenience to the patient, although she was tubercular. Dr. Broeq, who discussed the paper, insisted on the great interest attached to the therapy used in Dr. Queyrat's case. The result, he thought, would go far to rehabilitate among French practitioners the rather neglected use of iodide of potassium in tertiary syphilis.

Inborn Mental Deficiency or Instability as a Factor in the Etiology of Insanity.—In the third volume of the *Archives of Neurology*, from the Pathological Laboratory of the London County Asylums, Dr. Mott, Director of the Laboratory, expresses some uncommon opinions on the etiology of insanity. He says, *inter alia*, "While recognizing the fact that if the effects of alcoholism and syphilis could be eliminated, the total number of admissions to lunatic asylums might be reduced by from 25 to 30 per cent., and allowing that a certain number of patients may lose their reason, on account of other toxemic conditions, or from mental shock, grief, or other emotional or moral causes, the most important cause of insanity is an inborn mental deficiency or instability; what we term the cause may be a coefficient, and often merely serves as the spark which falls into the explosive matter." A serious enough doctrine, and not over-flattering to pride of intellect. The great majority of men do not require either the prevention or cure of insanity. Foolish they may be, at times, through passion or drink. Not wise, or even talented, but they have stability and sanity enough to guide them through life. Some there are, however, cursed with instability of mind, which they have inherited—a mental deficit ranging, in the individual instance, from eccentricity of character to occasional outbursts of mania. Happily placed, carefully guarded from shock or misfortune, some of this sad minority pass their lives without exhibiting marked insanity. Should they have to struggle with adverse conditions, physical, mental or moral, their minds may be upset by shocks, which would not jar the equipoise of sane ones. And what of dementia præcox, which darkens the career of blooming adolescence as a black cloud blurs the brightness of a summer morning. The bud of youthful promise conceals the worm in its bosom. What have modern systems of education to do with the etiology of dementia præcox? To an onlooker it looks like barking up the wrong tree to blame a cause, which, if really potent for evil, should have produced widespread insanity among the present generation of school children in America and Canada. The causes of the acknowledged increase of insanity among the natives of these countries must surely lie deeper than in improved systems of education and mental discipline. As well blame the tool-grinder for flaws and cracks in the grindstones he uses. Dr. Mott's teachings should go far to

convince us that sanity in men and women depends chiefly on sound brains, inherited from sane ancestors on both sides of the house. The natural corollary of this thought is that the chronic insane should be unsexed as soon as possible after the definite diagnosis of their infirmity has been made.

An Insanity Commission for Ontario.—In an oration on Surgery, delivered at the annual meeting of the Missouri State Medical Association, Jefferson City, May, 1907 (see *Journal Missouri State Medical Association*, June, 1907), Dr. P. Y. Tupper said that an insanity commission, composed of able and conscientious alienists, is appointed by the courts of St. Louis. Their duty is to examine and testify regarding the sanity or responsibility of criminals under the care of the city of St. Louis. They do not receive pay for their services. There seems some reason to think that there is room for such a commission in Ontario. Appointed by the Provincial Government, they might act in an advisory capacity to the courts, reporting on the sanity or responsibility of criminals and others having relations with the administration of justice, whose cases might be brought to their notice. It is likely that the primary interests of justice would be conserved by the operation of such a commission, and that is the first and most important matter to be considered. In all probability a suitable recompense would be provided for the services rendered, *e.g.*, a per diem allowance. The methodical and thoroughly dispassionate reports of an insanity commission would inspire confidence in the minds of judges, lawyers, juries, criminals, litigants and the general public. If appointed, some of the members of the insanity commission would probably be selected from the staff of the proposed clinic of psychiatry, to be established in connection with the new Toronto General Hospital. The appointment of a non-political insanity commission is not necessary. The Government of Ontario, to sustain its own credit, would be careful in the selection of the members of the commission.

A Fall in the Birth-rate Lowers the Death-rate in England and Wales.—Dr. Tatham, superintendent of vital statistics in the office of the Registrar-General for England and Wales, remarks, in the decennial supplement of 1891-1900 (See *British Medical*

Journal, June 29, 1907, p. 1556), that it would not be accurate to attribute to the results of sanitary administration alone, the whole of the life-saving represented by the falling death-rate. In the last four decennia, the death-rate at all ages has fallen by 15 per cent. (21.5 to 18.2 per 1,000 of population.) He shows that a considerable share in this falling death-rate depends on changes in the age-constitution of the population. There has been a fall in the birth-rate of England, ranging from 36.3 per 1,000 in 1876 to 28.7 per 1,000 in 1900. This change in the birth-rate continuing for twenty-four years has modified the age-constitution of the population, and as mortality is much higher among children under 10 years of age than among adults, it has lowered the general death-rate. Until the decennium 1871-80, the proportion of children under 10 years of age increased, but thereafter it declined, and, in the decennium of 1891-1900, was considerably less than in 1851-60. The increase in the proportion of persons living at the age of 10 to 15 years continued until 1881-90; but thereafter the proportion diminished. Corresponding to these changes at the earlier ages, there was, at first, a decrease, and afterwards an increase, in the proportion of persons living at the earlier adult ages, inasmuch as the mortality of young children is very high, while that of young adults is very low. Hence Dr. Tatham concludes, that these changes in the age-constitution of the living will tend to alter the general rate of mortality at all ages, irrespective of any reduction caused by sanitary improvement.

The Extent of the Surgical Intervention in Cases of Osteomyelitis.—The extent of the surgical intervention which should be made in cases of osteomyelitis occurring in adolescents, that is to say, whether the surgeon should, in certain cases of subperiosteal abscess, limit the operation to a simple incision of the periosteum, or should, in addition, apply a trephine to the subjacent healthy bone, is a question which is yet under consideration. It is difficult, often impossible, to diagnose cases in which the infection is limited to the surface of a bone; but, at all events, after the surgeon has incised the periosteum at the seat of the disease he can ascertain whether the underlying bone is in a healthy condition or not, and then, if necessary, may trephine the bone. Dr. Delbet, who introduced this important question

at a meeting of the Surgical Society of Paris, July 17, 1907, was inclined to limit the operation to simple incision of the periosteal abscess, as he had observed that the trephining of subjacent healthy bone had provoked an extension of the infection to the marrow of the bone, necessitating amputation of the affected limb at a later stage. Dr. Kirmisson agreed with this opinion, similar to the one which he had frequently expressed when lecturing on this branch of clinical surgery.

Chemical Composition and Dietetic Uses of Tomatoes.—Dr. J. M. Albahary reported, at a meeting of the Academy of Sciences, Paris, July 8, 1907, that the composition of the tomato (lycopersicum esculentum), in 100 parts was the following:

Water	93.5
Nitrogenous matter	0.95
Non-nitrogenous matter	0.50
Fat	0.20
Hydrocarbons	3.60
Insoluble organic matter	1.69
Insoluble inorganic matter	0.11

Total ash 0.74, of which 0.12 is phosphate of lime.

The free acids found in 100 parts of the fresh fruit are as follows:

Malic acid	0.48
Citric acid	0.09
Oxalic acid	0.001
	.571
Tartaric acid, Succinic acid	Traces.

Besides the free acids, there were negligible quantities of acids combined with bases as salts which are insoluble in alcohol and water. A small quantity of iron, in organic combination, is present in the insoluble and soluble matter. Dr. Albahary thought that persons suffering from gout, lithiasis, or arthritis, could use tomatoes without any inconvenience to themselves, although a good many physicians entertained contrary opinions on this subject.

J. J. C.

PERSONALS.

Dr. Murray McFarlane has returned from a visit to the hospitals of England, France, Germany, and Austria.

The University of Giessen has conferred *honoris causa*, the degree of M.D., upon Dr. Louis Merck, of Darmstadt.

Dr. W. H. B. Aikins, entertained a number of medical friends on the evening of September 17th, to meet Dr. Montgomery, of San Francisco, Cal.

Dr. J. H. Elliott, for nine years in charge of the Muskoka Cottage Sanatorium at Gravenhurst, Ont., has taken up his residence at 611 Spadina Ave., Toronto, and will devote his attention to diseases of the chest and tuberculosis.

Any physician desirous of procuring, at a very reasonable figure, an almost new Static machine, 16 plate, with X-Ray attachment, should apply at once to the Business Manager, this journal. This Static machine was purchased quite recently by a Toronto physician, and has been used but little.

Among Toronto physicians who attended the medical meeting of the Canadian Medical Association were Dr. D. J. Jebb Wishart, Dr. G. S. Ryerson, Dr. F. N. G. Starr, Dr. R. A. Reeve, Dr. McKeown, Dr. W. A. Young, Dr. Irving Cameron, Dr. J. T. Fotheringham, Dr. John Ferguson, Dr. P. G. Goldsmith, Dr. W. H. B. Aikins, Dr. J. J. MacKenzie, Dr. Geo. Elliott, Dr. A. H. Wright, Dr. Alex. McPhedran, Dr. Dixon, Dr. Samuel Johnston, Dr. G. W. Ross, Dr. Graham Chambers, Dr. Harold Parsons, and Dr. A. R. Gordon.

News of the Month.

KING EDWARD SANATORIUM FOR CONSUMPTIVES.

The new King Edward Sanatorium for Consumptives, situated near Weston, and that was officially opened on Aug. 28th, by His Excellency Earl Grey, rounds out an interesting quartette of Sanatoria in this Province that owe their inception largely to Mr. W. J. Gage, H. C. Hammond, Hon. W. A. Charlton, and a number of other well-known citizens.

The King Edward Sanatorium consists of two handsome buildings (*a*) The Hammond Cottage, or administration building, the $10,000 gift of H. C. Hammond, Esq., (*b*) The Mulholland building for patients, a $10,000 gift of R. Mulholland, Esq., of Toronto. Additional to these there is a third building, consisting of a dining-room, cottage and servants' quarters. Immediate accommodation has been made for some 15 patients, but the arrangements are such that increased accommodation can be immediately furnished up to 40 or 50 patients, as called for.

The King Edward Sanatorium is pleasantly situated on some 40 acres of ground near Weston, on the opposite side to where there has been located since 1904 the Toronto Free Hospital for Consumptives.

Whilst the King Edward Sanatorium for Consumptives is under a distinct board of management from the National Sanitarium Association, yet there is close affiliation between the two. Mr. W. J. Gage is Chairman of both Boards, and Mr. J. S. Robertson is Executive Secretary.

With the Muskoka Cottage Sanatorium in Muskoka, for pay patients, in the incipient stages of tuberculosis, and the Muskoka Free Hospital for Consumptives, a mile distant, for charity patients, and the two institutions at Weston for more advanced cases, provision has been made by the management for the reception of whatever class of patients may be seeking admission.

It is intended that the King Edward Sanatorium for Consumptives will be to some extent a reception home for patients. If in response to treatment, good progress is made by patients, then they can be transferred to the Muskoka Cottage Sanatorium and secure the benefit of treatment in that favored health section of the Province.

The growing interest in the tuberculosis problem was indicated by the large number of citizens who made their way to the opening ceremonies of the two Humber institutions. From 1,200 to 1,500 people were present on the grounds. The speeches of Earl Grey, W. J. Gage, Hon. W. A. Charlton, Hon. W. J. Hanna, Hon. Dr. R. A. Pyne, and Mayor Coatsworth, were very timely and listened to with interest by the many present.

After the speech-making, the visitors were escorted through the buildings by trustees and other officials.

W. J. Dobbie, M.A., M.D., is Physician-in-Chief of the King Edward Sanatorium and the Toronto Free Hospital for Con-

Administration Building. King Edward Sanatorium for Consumptives, by Special Permission of His Majesty King Edward VII. For Advanced Cases. Established 1907. The Gift of H. C. Hammond, Esq.

sumptives, and Miss E. Dickson is the capable Lady Superintendent.

The following incidents, narrated by Mr. W. J. Gage in his opening speech at the King Edward ceremonies, when introducing Earl Grey, emphasises the value of such institutions as exist to-day in Muskoka and Weston:

"A few months ago an applicant presented himself at the office of the physician-in-chief of the Muskoka Cottage Sanatorium asking admission. He told his story that he had been a railway conductor, that he had been turned out of the boarding house where he had lived for seventeen years because he had contracted tuberculosis. He then removed to a hotel in the town. There it

was shortly discovered that he was a victim of consumption, and the proprietor told him that they dare not keep him longer. He then applied for admission to the General Hospital of his town and was refused. In his desperate condition he started for the Muskoka Cottage Sanatorium. The physician there, after examination, advised him that his case was too far advanced for treatment there. The poor fellow, with tears streaming down his cheeks, begged the doctor to allow him to remain, saying: 'I have travelled for two days on the train. I have been turned out of my boarding house and out of the hotel in my own town. Then I was refused admission to the local hospital. Nobody wants me.

The Mulholland Cottage for Patients at King Edward Sanatorium for Consumptives. For Advanced Cases. The Gift of Robert Mulholland, Esq.

For God's sake, doctor, let me stay. I have money to pay for all I want.'

"The patient was cared for at the Muskoka Cottage Sanatorium until such time as he could be safely removed to the Toronto Free Hospital for Consumptives. There his needs received every attention that was possible to medical skill and tender nursing. He passed away some weeks ago.

"Now, Your Excellency, I have the pleasure of calling upon you to open the door of this new sanatorium, which His Majesty has graciously permitted to be called by his name, an institution that will provide a home and minister to the needs of just such a one as the conductor to whom I have referred, those who are

too sick to be admitted into the Muskoka homes and those whom other hospitals refuse—who have no place to go—those, indeed, whom their own friends in many cases do not want, for fear of contagion."

NEW MATERNITY WING OPENED AT ST. MICHAEL'S HOSPITAL.

The opening of the new maternity wing at St. Michael's Hospital marks the epoch in the progress of probably one of the most modern hospitals in Canada, and is a distinct achievement in the establishment of lyin-in homes.

It has long been realized by the Sisters of St. Joseph, under whose management and executive care the institution has been equipped in the latest and most scientific manner, that the maternity flat, formerly at the top of the surgical wing, had become entirely inadequate to accommodate the many patients.

With this end in view, and also with the idea that the property directly to the south of the present hospital site would be a valuable acquisition, should it at any future time be thought desirable to extend the present handsome buildings, the sisters purchased the 100 feet fronting on Bond Street, together with three large brick dwelling houses.

It was then decided to convert the three houses into a lying-in wing, and to met the requirements of this important branch of hospital works, plans were laid out for a complete renovation of the dwelling houses. To-day St. Michael's has probably the finest maternity home in the Dominion. In fact, several United States physicians shown through the new wing have stated that it is the brightest and most up-to-date maternity hospital that they have ever been in. One or two have gone farther and congratulated the sisters for their wonderful thoughtfulness in the arrangement of the various wards, the novel ideas suggested for the comfort of patients and the thoroughness with which every detail of such a home has been carried out.

A covered laneway leads to the new wing from the hospital building proper. The three houses are now all one big building, by means of new doors conveniently installed. The buildings from end to end have been papered and painted, not with an idea of extravagance, but with a view to having each ward, public or private, bright, airy and clean.

On the ground floor are three large public wards. Each ward contains from seven to ten beds. The newest and most modern cots have been secured for the public wards and the furnishings throughout have been selected with great care. Off the wards

are new bathrooms and medicine closets, etc. Immediately in the rear are commodious rooms which will be used as kitchens.

On the second and third flats are the private and semi-private wards. Here again have the sisters in charge shown wonderful taste in the furnishings, which are exact. The large semi-private wards contain three cots; the smaller ones have accommodation for two. There are 18 semi-private wards and a dozen private rooms.

The atmosphere of the private wards is homelike and in each case no comfort for the paying patient has been overlooked.

With the new wing the hospital will now have accommodation for eighty patients, where heretofore a dozen or so was all that could be taken at a time.

Dr. M. M. Crawford is in charge of the new maternity hospital.

COMMITTEE WHICH VISITED EUROPEAN ASYLUMS RETURNS HOME.

Hon. Dr. Willoughby, Dr. Clark, Superintendent of the Toronto Asylum, and Dr. Ryan, Superintendent of Rockwood Asylum, Kingston, have returned from their trip to Europe, whither they went as the representatives of the Provincial Government. They visited the asylums of Great Britain, France and Germany, and studied the methods of treatment in vogue there, with a view to obtaining data for use in the asylums of Ontario.

It was said that a beginning would be made in Toronto, where some changes must be made in the asylum for the insane. That institution will be removed to a new site, and it has been said that a psychiatric clinic, in some respects similar to that at Munich, Germany, may be established. This would form a part of the new Toronto General Hospital. Cases of acute mental diseases would be treated there, and it is believed that many patients on the borderland of insanity would be saved. Should a case prove incurable, the patient would be removed to the asylum. On the success of this system in Europe, Hon. Dr. Willoughby and his colleagues will report to the Government.

It has been suggested that a ward capable of accommodating 100 patients be located at the new Provincial Hospital. If this should be a success, similar wards might be opened at other points in the province.

The Physician's Library.

Surgical Instruments in Greek and Roman Times. By John Stewart Milne, M.A., M.D., Aberd. Keith Gold Medalist in Clinical Surgery. With Illustrations. Oxford: At the Clarendon Press. 1907.

Dr. Milne, after spending, as he says, five or six years in studying the literature of the subject, and examining the finds of surgical instruments in the museums of Switzerland, France, Germany, England, and other European countries, has attempted to reconstruct the surgical armamentarium of the ancient Greek and Roman surgeons.

Fifty-four plates, showing cuts of instruments exhibited at the museums of Naples, Cologne, Toulouse, London, and other cities, with original drawings by the author, splendidly illustrate the text. There is an appendix in which an inventory of the chief instruments in various museums is given: also another containing the bibliography of the subject. In addition to an index of subjects, in English, there is a Greek index and a Latin index.

The preparation of this book must have called for great industry and fine scholarship. Physicians who take an interest in the history of ancient medicine are under an obligation to this author. J. J. C.

Surgery of the Rectum. By Fred. C. Wallis, Surgeon to Charing Cross Hospital and to St. Mark's Hospital, London. London: Bailliere, Tindall & Cox. 1907. Canadian agents: J. A. Carveth & Co., Limited, Toronto.

This work of 168 pages is "intended to present the surgery of the rectum in a practical and condensed form to young surgeons and practitioners." Its author has had abundant opportunity for observation in this field, and has come to hold very positive opinions regarding his own views and practice. That any large proportion of practical surgeons will be found in accord with him is more than doubtful. His claim that the Whitehead operation should be the procedure of election in dealing with hemorrhoidal disease and the complicated colotomy with immediate opening of the bowel, and the use of two Paul's tubes, which he strongly advocates, will suffice as illustrations of his peculiar views. There is much that is original in the book and not a little that is of practical utility, but better works are available, and this cannot replace or displace them. N. A. P.

Diseases of the Rectum: Their Consequences and Non-Surgical Treatment. By W. C. Brinkerhoff, Chicago. Price, $2.00.

The author of this book is decidedly enthusiastic over the injection method, as modified by his father and himself, for the treatment of hemorrhoids. The greater part of the book consists of a series of cases, all of them severe, and some of which have been subjected to operative procedure; they then have been treated by Dr. Brinkerhoff with a perfect result in every case. The chapter which deals with the method of treatment is decidedly disappointing, failing to describe what we would consider the essential points of the operation. The book is quickly read, and contains some useful things. E. A. M.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U.S.A., with the collaboration of Wm. Osler, M.D., Oxford; John H. Musser, M.D., Philadelphia; Jas. Stewart, M.D., Montreal; J. B. Murphy, Chicago; A. McPhedran, M.D., Toronto; Thos. M. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; Jas. G. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; John Harold, M.D., London; Edmund Landolt, M.D., Paris; Richard Kretz, M.D., Vienna, with regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume III., Seventeenth Series, 1907. Philadelphia and London: J. B. Lippincott Co. 1907.

In looking over Vol. III. of "International Clinics," we find among the contributors such names as those of Dr. L. Brocq, Dermatologist to the Paris Hospital; Dr. D. L. Edsall, of the University of Pennsylvania; Dr. Leo Loeb, of Philadelphia; Dr. J. B. Roberts, of Philadelphia Polyclinic; Dr. J. E. Sweet, of the University of Pennsylvania; Dr. J. W. Wainright, of New York City; Dr. Ernest Thomson, Surgeon Glasgow Eye Infirmary, and Dr. Hugh H. Young, of Baltimore, M.D.

The volume consists of nine sections: Treatment, Medicine, Surgery, Gynecology, Genito-urinary Diseases, Ophthalmology, Neurology, Dermatology and Pathology. Dr. Edsall contributes a most instructive lecture on "Some Practical and Theoretical Considerations Concerning Diabetes," in which he throws new light on many points concerning a disease the actual cause and successful treatment of which we have yet much to learn. An-

other chapter that is well worthy of careful study is from the pen of Dr. J. B. Roberts, and is entitled, "Some Surgical Aspects of Tuberculosis." Dr. F. P. Gay contributes an original article entitled, "The Etiology and Experimental Study of Syphilis."

W. A. Y.

Inflammation: An Introduction to the Study of Pathology. Being the reprint (revised and enlarged) of an article in Professor Allbutt's "System of Medicine." By J. George Adami, M.A., M.D., F.R.S., sometime Fellow of Jesus College, Cambridge; Professor of Pathology, McGill University, Montreal. Toronto: The Macmillan Company of Canada, Limited, 27 Richmond Street West. London: Macmillan & Co., Limited. New York: The Macmillan Company. 1907. All rights reserved.

This admirable work is a reprint of the article on inflammation in "Allbutt's System of Medicine," first edition in 1896, second in 1905, and now more complete and fully up-to-date in separate book form in 1907.

The book comprises 237 pages, including the index. It is divided into three parts, in all twenty-eight chapters.

Part I. gives a general survey of the process of inflammation from the lowest organisms up to the more complex and highly developed forms of life.

Part II. deals with the factors in the inflammatory process, including the part played by the leucocytes, the inflammatory exudates, the blood-vessels, the nervous system, the cells of the tissues and the temperature changes.

Part III.—General conclusions. In this part is considered the various inflammatory manifestations, the systemic changes consequent on inflammation, and the principles of treatment of the inflammatory state. Wright's opsonic theories and methods of employing toxins, Bier's hyperemic treatment, and Von Mekulicz's injections to develop the resistance period, are all discussed.

This is a work that every medical man should read.

W. J. W.

Surgery of the Genito-Urinary Organs. By J. W. S. Gouley, M.D. New York: Rebman Company, 1123 Broadway.

This work consists of brief annotations on the nature, diagnosis and treatment of some of the diseases of the genito-urinary organs that come within the province of surgery. They are designed to place before the profession the results of the author's own researches, as well as those of other laborers in the same field of science.

A. J. H.

Practical Fever Nursing. By Edward C. Register, Professor of the Practice of Medicine in the North Carolina Medical College. Illustrated. Philadelphia and London: W. B. Saunders Company. 1907. Canadian agents: J. A. Carveth & Co., Ltd., Toronto. $2.50 net.

The object of this volume is to provide for nurses a working text-book that will cover the field for practical fever nursing. Many useful hints are given in the opening chapter on general considerations for the trained nurse and her practical duties in fever cases. A short description of the causes, symptoms and treatment of the various important fevers follows in succeeding chapters.

The book is well adapted as a text-book for nurses. It is very readable, and contains a large amount of useful information.

A. E.

The Priest. By Harold Begbie. Toronto: William Briggs. Cloth.

A story with a purpose, supposedly the unmasking of the priests who outwardly are clergy of the Anglican Church. To those who enjoy flaring the X-rays of religious criticism upon the souls and bodies of men, this book will be meat and drink. That Harold Begbie can also write beautifully of the sunshine of the soul life is evidenced by a few rare chapters in his book that twine lovingly around a young girl who, "By the vision splendid is still attended." "The Priest" has had a very large sale in England and Scotland.

W. A. Y.

Gynecology and Abdominal Surgery. In two large octavos. Edited by Howard A. Kelly, M.D., Professor of Gynecologic Surgery at Johns Hopkins University, and Charles P. Noble, M.D., Clinical Professor of Gynecology at the Woman's Medical College, Philadelphia. Large octavo volume of 851 pages, with 405 original illustrations by Mr. Hermann Becker and Mr. Max Brodel. Philadelphia and London: W. B. Saunders Company. 1907. Per volume: Cloth, $8.00 net; half morocco, $9.50 net. Canadian agents: J. A. Carveth & Co., Ltd., Toronto.

As is always the case, any book bearing on its title page the name of Howard Kelly as editor, requires no criticism. Dr. Kelly's world-wide reputation as a surgeon is all that is necessary to attach to any volume of which he is the author an importance second to none, and we take this opportunity of congratulating him upon the scientific and literary excellence of Volume I. of "Gynecology and Abdominal Surgery." The interests of the general practitioner have not been neglected by

the editor, as a part of the book has been devoted to medical gynecology, so that all that the general practitioner has to do is to refer to the one section, where he will find concentrated a great fund of information which, had it appeared in similar works, would have made them more suitable for general practitioners and not altogether for specialists. Distinct chapters have been devoted to the consideration of the bacteriology and pathology of diseases of women, so that those who are specially interested in and wish to investigate the scientific basis of gynecology will find the information desired. This is a department that has been somewhat neglected in books devoted to gynecology. The different puerperal injuries and infections have been included in this volume, as also the treatment of incomplete abortion, ectopic pregnancy and the Cesarian operations, thus again interesting not alone the gynecologist pure and simple, but the physician and general surgeon practising abdominal surgery. Special chapters are also found dealing with operations during pregnancy, operations before puberty, conservative operations upon the uterine appendages, and the complications of operations. The book is full of illustrations, thus adding materially to the value of the text. W. A. Y.

The Secret. By E. Phillips Oppenheim. Toronto: The Copp, Clark Co., Limited. Cloth, illustrated.

Fascinating in its medley of political intrigue, courageous spirit, gunpowder, smoke, and over all the calcium light of love. This story would be a thriller if transferred to its proper setting —stageland. W. A. Y.

Surgery: Its Principles and Practice. Volume II. In five volumes. By 66 eminent surgeons. Edited by W. W. Keen, M.D., LL.D., Hon. F.R.C.S., Eng. and Edin., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Phila. Volume II. Octavo of 920 pages, with 572 text-illustrations and 9 colored plates. Philadelphia and London: W. B. Saunders Company. 1907. Per volume: Cloth, $7.00 net; Half Morocco, $8.00 net. Canadian Agents: J. A. Carveth & Co., Ltd., Toronto.

In the April, 1907, number of this journal we reviewed the first volume of Keen's Surgery, and feel pleasure in saying that the second volume of this great work fulfills the promise of its predecessor.

The contents of Volume II are, Diseases of the Bones, by E. H. Nichols, M.D.; Fractures, by D. N. Eisendrath, M.D.; Surgery of the Joints, by R. W. Lovett, M.D., and E. H. Nichols, M.D.; Dislocations, by D. N. Eisendrath, M.D.; Muscles, Ten-

dons, Bursae, by J. F. Binnie, M.D.; Orthopedic Surgery, by R. W. Lovett, M.D.; The Lymphatic System, by F. H. Gerrish, M.D.; Surgery of the Skin, by J. A. Fordyce, M.D.; Pathology of Chief Surgical Disorders of Nervous System, by Wm. G. Spiller, M.D.; Surgery of Nerves, by Geo. Woolsey, M.D.; Traumatic Neurasthenia, Hysteria, and Insanity, by F. X. Dercum, M.D.; Surgery of the Insane, by J. Chalmers DaCosta, M.D.; Surgery of the Spine, by Geo. Woolsey, M.D.

The illustrations in the different chapters occupy a good deal of space. This, however, is a very pardonable fault; many readers preferring to learn from the pictured page rather than the text, the photograph assuming the rôle of teacher. The principle of doing the greatest amount of good for the greatest number being a sound one, the exhibition of this quality in a work on surgery should bring it to the favorable notice of surgeons and practitioners, who have not followed the latest advances of the science and art of surgery. Apart from the possession of this special advantage, the articles in the work bear the stamp of merit and show evidence of close study, each author conveying a terse presentation of the opinions, facts and data gleaned from the latest and best literature, as well as his own appreciation of the same.

J. J. C.

The Practical Medicine Series. Comprising ten volumes on the Year's Progress in Medicine and Surgery, under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. I. "General Medicine," edited by Frank Billings, M.S., M.D., Head of Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Vol. II. "General Surgery," edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in Rush Medical College (in affiliation with the University of Chicago). Series 1907. Chicago: The Year Book Publishers, 40 Dearborn Street.

These two volumes are very much like the two that were published last year, with the addition, of course, of some mention of almost everything that has been written and considered worth repeating with regard to disease, both medical and surgical, during that time. About a third of the volume on medicine is given up to tuberculosis, a subject on which so much has been written of late years, and while perhaps there may not be much in this article that one has not heard of before, still there are many parts of it which are of undoubted value. The opsonic index is thoroughly explained, as well as the work done by Dr. Wright and the discussions which his work has led to. Some new diagrammatic

illustrations of diseases of the heart, and the question of probable life expectation in these diseases, will be of interest to all those connected with insurance companies. The article on urinalysis is in an excessively good form, and can be easily followed.

The surgical volume presents, of course, more new matter. Surgery is still making great advances, more particularly the surgery of special regions. Taken together, these two volumes, if carefully read, give one the best possible idea of the present position of medicine and surgery. A. J. J.

The Brass Bowl. By Louis Joseph Vance. Cloth, illustrated. Toronto: McLeod & Allen.

A racy, interesting, exciting little story, as bracing as a ride to hounds almost, so keen is the scent and so quick the chase. In truth, nothing more nor less than the hunting and trapping of a burglar. W. A. Y.

Diseases of Infancy and Childhood. Their Dietetic, Hygienic, and Medical Treatment. A Text-Book designed for Practitioners and Students in Medicine. By Louis Fischer, M.D., Visiting Physician to the Willard Parker and Riverside Hospitals, of New York City; former Instructor in Diseases of Children at the New York Post-Graduate Medical School and Hospital, etc., etc.; Fellow of the New York Academy of Medicine. With 303 text illustrations, several in colors, and 27 full-page half-tone and color plates. 979 royal octavo pages. Extra cloth, $6.50 net; half morocco, $8.00 net. Sold only by subscription. Philadelphia: F. A. Davis Company, publishers, 1914-16 Cherry Street.

The rapid strides that have been made in diagnosis and treatment of infantile and children's diseases is sufficient reason for the presence of another extensive text-book on this subject. But the danger lies in an overlapping, and in this instance the author by some pruning might have narrowed down the limitations of the work very considerably. The section dealing with the very essential subject of infant feeding is most thorough in detail and replete with valuable hints. The disorders arising from improper feeding have been given prominence. An extensive experience at the large service of the Riverside and Willard Parker Hospitals has afforded the author abundant opportunity for comparing various treatments, and attention is called to many frequently neglected points of treatment. As a teacher of physicians at the New York Post-Graduate Medical School and Hospital the author has proven the value of photographic and color plates to express the true nature of disease, consequently we find every article liberally illustrated.

In a miscellaneous part we find much practical information on such subjects as anesthetics in children, disinfections, the administration of drugs, local remedies, rectal medication, etc.

The book is comprehensive and complete with the teachings of to-day, and we cordially recommend it to practitioners and students in medicine. W. H. P.

New Chronicles of Rebecca. By Kate Douglas Wiggin. Toronto: William Briggs.

Could anyone bear to lose Rebecca of Sunnybrook Farm for ever and a day? Surely not. Then read the "New Chronicles." They seem little forgotten bits of quaintness left out by mistake from Rebecca's life history. As there is "only one of everybody," her own pen must write her story. W. A. Y.

Modern Methods of Diagnosis in Urinary Surgery. By Edward Deanesly, M.D., B.Sc. (Lond.), F.R.C.S., Hon. Surgeon Wolverhampton and Staffordshire General Hospital. London: H. K. Lewis, 136 Gower Street, W.C. 1907. Price, 3s.

This is a work of ninety-seven pages, dealing with the diagnosis and treatment of the various affections of the urinary tract. The differential diagnosis is well given, and the minutiæ of the various procedures, including the newer methods, for diagnosis and treatment are carefully explained. There are cuts illustrating the interior of the bladder, the combined examination of the prostate gland, the cystoscope and two varieties of separators.

We are much pleased with the work, and feel sure it will prove helpful to the general surgeon, for whom it was written, and interesting to the urinary specialist. W. J. W.

Manual of Diseases of the Ear, Nose and Throat. By John Johnson Kyle, B.S., M.D., Professor of Clinical Otology, Rhinology and Laryngology in the Medical College of Indiana, Department of Medicine of Purdue University; Otologist, Rhinologist and Laryngologist to City Hospital, St. Vincent's Hospital, and City Dispensary, Indianapolis; Fellow of the American Academy of Ophthalmology and Oto-Laryngology, and Fellow of the American Laryngological, Rhinological and Otological Society; Member of the Association of Military Surgeons of the United States; late Major and Surgeon U. S. Vol. Second edition, revised and enlarged, with 169 illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1907. Price, $3.00.

In a compact little volume the author says he has endeavored to give to students and general practitioners of medicine part of the essential information relative to diseases of the ear, nose and

throat, and has given those methods of treatment that have been most successful in his own hands. The work is well illustrated, and contains many formulary which will be of special help to general practitioners. The subjects are handled in a clear and concise manner. Free use has been made of European authors, to whom the author gives unstinted credit. One cannot help thinking that Kyle's patients are of a strange make-up, as he says the pain in adenectomy is slight in youths and he prefers a local anesthetic. He prefers to remove the tonsils after the adenoids.

The book is nicely gotten up, and reflects credit on both the author and the publishers. P. G. G.

The Diagnosis and Modern Treatment of Pulmonary Consumption. With Special Reference to the Early Recognition and the Permanent Arrest of the Disease. By Arthur Latham, M.A., M.D. (Oxon.), M.A. (Cantab.), F.R.C.P. (Lond.). Author of the Prize Essay on the Erection of King Edward VII. Sanatarium; Physician and Lecturer on Medicine at St. George's Hospital; Senior Assistant Physician at the Brampton Hospital for Consumption and Diseases of the Chest; Advisory Physician to the Throat Hospital, Golden Square; Advisory Physician to the York Lying-in Hospital. Third edition. London: Bailliere, Tindall & Cox, 8 Henrietta St., Covent Garden. 1907. Canadian agents: J. A. Carveth & Co., Ltd., 434 Yonge St., Toronto.

It will be interesting to know that the author has made mention of the value of the opsonic index in treatment and diagnosis, the use of Koch's new tuberculin in treatment, and Dr. Paterson's interesting observations on the value of manual labor at Frimley Sanatorium. This, the third edition, is an up-to-date work in every respect. A. J. H.

Manual of Diseases of the Eye. By Charles H. May, Chief of Clinic in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York. Fifth edition, revised. 362 illustrations, with 22 plates, 63 colored figures. 1907. $2.00 net.

This popular manual, which has been translated into French, German, Dutch, Italian and Spanish, has now reached its fifth edition. It maintains its former excellence. Some illustrations, its author says, have been replaced by superior ones. His attention might well be drawn to the picture, labelled exophthalmos, on page 70—the most vivid imagination would not recognize it as such. Yet the excellence of the plates and illustrations as a whole is most unusual in a manual of this size. M.

Five Hundred Surgical Suggestions. Practical Brevities in Surgical Diagnosis and Treatment. By Walter M. Brickner, B.S., M.D., Chief of Surgical Department, Mount Sinai Hospital Dispensary, New York; Editor-in-Chief, *American Journal of Surgery,* and Eli Moschcowitz, A.B., M.D., Assistant Physician, Mount Sinai Hospital Dispensary, New York: Associate Editor, *American Journal of Surgery.* Second Series. Duodecimo; 125 pages. New York: Surgery Publishing Co., 92 William St. 1907. Price, $1.00.

This little volume is gotten up in a very attractive style, and contains the condensed experience of the well-known authors. It is a book for the busy man—or to be picked up while waiting for a street car. Every part of the human frame is dealt with, and a variety of surgical axioms given in connection with each section.

E. A. M.

A Practitioner's Handbook of Materia Medica and Therapeutics. Based upon established physiological actions, and the indications in small doses. To which is added some pharmaceutical data and the most important therapeutic developments of sectarian medicine as explained along rational lines. By Thomas S. Blair, M.D., Member American Medical Association, Pennsylvania State Medical Society, Harrisburg Academy of Medicine; Member of Visiting Staff of Harrisburg City Hospital, etc. Philadelphia: The Medical Council, 4105 Walnut Street.

The author has made two chief divisions in his work, the first under the heading of botany, the second under materia medica and therapeutics. There seems to be nothing in this book which cannot be obtained from any of the numerous works on this subject.

A. J. H.

The Diagnosis of Nervous Diseases. By Purves Stewart, M.A., M.D., F.R.C.P., Physician to Out-Patients at the Westminster Hospital; Joint Lecturer on Medicine in the Medical School, etc. London: Edward Arnold, 41 and 43 Maddox Street, Bond Street W. 1906.

This is an excellent work that will prove to all, the beginner as well as the expert in neurology. The book opens with a brief clear outline of the anatomy and physiology of the nervous ssytem. Then follows a description of the various symptoms and signs of nervous diseases, with an explanation of their causes and an explanation of their significance. It is much more useful than the usual works on diagnosis, as the author is not content with labelling each symptom as a sign of a special disease. The book is well worthy of a place in any library.

Diseases of the Intestines and Peritoneum. By Dr. Hermann Nothnagel, of Vienna. Edited, with additions, by H. D. Rolleston, M.D., F.R.C.P., Physician to St. George's Hospital, London, England. Second edition. Octavo of 1059 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1907. Cloth, $5.00 net; half morocco, $6.00 net. Canadian agents: J. A. Carveth & Co., Ltd., Toronto

This new edition has appeared unexpectedly early, and, as the editor remarks in the Preface, little change has been made beyond a considerable number of additions and some alterations in the arrangement and substance of the editorial additions made in the firstedition. The text, the work of the late distinguished author, remains unaltered beyond the omission of a few case histories. As remarked in the previous review, the translation is very good and clear. The editor has shown himself thoroughly acquainted with Canadian and American literature, so that little of value in this wide field has failed to receive due credit. The views of both author and editor, which are well abreast of the times, are characterized by sound conservatism, and the work can be highly commended to the profession. It is needless to say that the work of the publishers is well done.

A Comparative Study of the Influence of Cod Liver Oil and Cod Liver Oil Emulsion upon the Nutrition of Normal and Tuberculous Pigs. By J. W. Wells, M.D., Manchester. At the University Press. 1907.

This small monograph contains some experiments that are intended to show the comparative values of cod liver oil and cod liver oil emulsions when fed to normal and tuberculous pigs. The experiments were conducted in the Public Health Laboratory of the University of Manchester, and they show that the nutrition of tuberculous animals was improved by the addition of cod liver oil to their food. A. E.

Green's Encyclopedia and Dictionary of Medicine and Surgery. Vol. V. of "Green's Encyclopedia and Dictionary of Medidon: Wm. Green & Sons.

Vol. V. of "Green's Encyclopædia and Dictionary of Medicine and Surgery" contains 908 subject-headings. This now completes the first half of what is turning out a splendid and most valuable reference book. Perhaps the most lengthy article in Vol. V. is that on labor, consisting of seventeen subdivisions, written by twelve or more authors, amongst them being Drs. F. W. N. Haultain, H. Jellett, W. R. Dakin, W. Stephenson, G. E. Herman, W. E. Fothergill, W. W. H. Tate, T. W. Eden, Sir Alex. R. Simpson, J. W. Ballantyne, and Murdoch Cameron. The volume

also contains articles of more than ordinary value on life insurance, leucocytosis, leprosy, diseases and injuries of the knee joint, invalid feeding, physiology and surgical affections of the kidney, and diseases of the lacyrmal apparatus. "The purely dictionarial part of this work endeavors, without striving after the degree of copiousness attained by some works which are dictionaries only, to give the meaning of every medical term which is at all likely to puzzle the general practitioner in his reading of current medical and surgical literature, while the part which constitutes the encyclopedia consists of articles which are authoritative, coming as they do from the pens of men who are experts in their various departments."

Nephritis. A Manual of the Disease commonly called Nephritis or Bright's Disease, and of Allied Disorders of the Kidneys. By Seelye W. Little, M.D. New York: The Grafton Press. 1907.

This brochure may find a useful place in the library for ready reference. The chapter on foods and dietaries is good, and the book may be read with benefit to many. A. J. H.

Essentials of Chemistry and Toxicology. For the use of Students in Medicine. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics and Toxicology in Cornell University. Thirteenth edition, revised by R. J. E. Scott, M.A., B.C.L., M.D., author of "The State Board Examination Series." New York: William Wood & Company. 1907.

This is a compact little work of about three hundred pages, arranged as a quiz compend. It has a complete index of paragraphs, making it an exceedingly handy reference. It deals with both inorganic and organic chemistry, and the sections on toxicology give it a useful place in a medical student's or practitioner's library. W. J. W.

The Elements of the Science of Nutrition. By Graham Lusk, Ph.D., M.A., F.R.S. (Edin.), Professor of Physiology at the University of Bellevue Hospital Medical College, New York City. Philadelphia and London: W. B. Saunders & Co.

Professor Lusk presents a work showing infinite care and absolute veracity—no theoretical fancies, but solid, proven work in every statement. Any practitioner would be well repaid by studying hard the chapters on metabolism, and those interested in the feeding of infants and children, wherein the demand for caloric percentages in all foods is scientifically placed before us, cannot do better than obtain this work and give several hours to its perusal. It is not an easy book to read—must be taken seri-

ously and digested leisurely. We think it rather diffuse—too many figures for the ordinary student—but as a work of reference it is capital. As usual with all the productions of W. B. Saunders & Co., the printing, paper and general get-up is first-class in every detail.

Merck's 1907 Index (third edition). An encyclopedia for the chemist, pharmacist and physician, stating the names and synonyms, source or origin, chemical nature and formulas, physical form, appearance and properties, melting and boiling points, solubilities, specific gravities and methods of testing, physiological effects, therapeutic uses, modes of administration and application, ordinary and maximum doses, incompatibilities, antidotes, special cautions, hints on keeping and handling, etc., of the chemicals and drugs used in chemistry, medicine and the arts. Merck & Co., 15 University Place, New York; St. Louis, Mo., and Rathway, N.J.

For a full description of this useful volume, one that we feel sure will be found universally useful to medical men and pharmacists, we cannot do better than refer our readers to the title page, as above. The book contains a fund of information, and is, in fact, a *multum in parvo*. It has been most popular in the past, and will, no doubt, continue to be so in the future.

W. A. Y.

Diseases of the Stomach. By Dr. I. Boas, Specialist in Gastro-enteric Diseases in Berlin, Germany. The sole authorized English-American edition from the latest German edition. By Albert Bernheim, M.D., Freiburg, Germany, Assistant to the late Dr. D. D. Stewart at the Philadelphia Polyclinic Hospital and Post-Graduate School, as Instructor in the Department of Diseases of the Stomach and Intestines, etc., etc. Appropriately illustrated with five full-page plates and sixty-five engravings in the text. 730 royal octavo pages. Extra cloth, $5.50 net; half-morocco, $7.00 net. Sold only by subscription. Philadelphia: F. A. Davis Company, publishers, 1914-16 Cherry Street.

In his preface to the fifth German edition the author states the principles which guided him in this work, viz.: "Hypotheses as few as possible, but practical hints in precise, easily comprehensive form as many as possible."

We must congratulate the author on having kept so well to his text. The work is concise and practical, one we can with confidence recommend to those who wish a good work on diseases of the stomach.

The first two chapters give a short account of the topography

and histologic anatomy, with remarks on the chemistry and physiology of the stomach.

Part I. of the general division of the book is devoted to the methods of general diagnosis, while Part II. treats of diagnosis and therapeutics.

It contains 730 pages, including the index. The binding is neat and attractive and the type clear. There are sixty-five illustrations and five full-page plates. W. J. W.

Treatment of the Diseases of Children. By Charles Gilmore Kerley, M.D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital; Attending Phpsician to the New York Infant Asylum; Attending Physician for Children, Sydenham Hospital, New York; Assistant Attending Physician to the Babies' Hospital, New York; President of the American Pediatric Society, etc. Fully illustrated. Philadelphia and London: W. B. Saunders Company. 1907.

This is a book of six hundred pages, which has been prepared specially for the use of the physician in active general practice, and it is written in a way that enables the practitioner to find and use what perhaps is contained in other books on this subject, but in them cannot be so easily handled. This is what might be called essentially a practical book, and a book that should be of practical value to every medical man in general practice. It is a book that has been written largely from personal experience, and contains a large amount of very interesting and useful matter which is often overlooked in more elaborate books. The chapters devoted to development, described under "Gymnastic Therapeutics," are illustrated in a way that makes it particularly easy for the busy practitioner to see the effect and value of the treatment suggested.

A. J. J.

The Diagnosis and Treatment of Intussusception. By Charles P. B. Clubbe, Sydney, Australia. London and Edinburgh: Young J. Pentland. 1907.

This small volume is a type of a class of monographs of which the supply is at all times too limited.

Scholarly, critical and practical, it presents within limited space just what one who is confronted with a case of intussusception would wish to have at hand for consultation. The author shows clearly, but with all modesty, that he has a comprehensive knowledge of both the older and the more recent literature of his subject, and his conclusions regarding diagnosis, pathology and treatment are based upon an ample personal experience. No less than 144 cases have come under his care, and the percentage of recoveries has been surprisingly large. This reviewer is prepared to go on record as endorsing the book before us most heartily.

N. A. P.

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Original Contributions.

SOME PROBLEMS IN CONNECTION WITH THE SUPRARENALS.*

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FIRST, let me express my sincere gratitude for the high compliment which you have paid me in asking me to give the address in Medicine; it was impossible to hesitate about accepting such an honor even had it not been conveyed through Professor Osler, who, hailing from McGill, is now Regius Professor in Oxford. The subject matter of an address in medicine must always be a source of some anxiety to those entrusted with the honor. It may either be on general lines and deal with the history, recent advances, future and relations of medicine, or it may be more special and deal with a single subject. Each course has its own disadvantages; but, after some consideration, I have decided on a special subject, and must beg your indulgence for the following review of some problems in connection with the suprarenal glands.

As is well known, the suprarenals are composite glands consisting of two portions which are distinct from a developmental and from a physiological point of view—the cortex derived from a cœlomic epithelium of the Wolffian ridge and closely related to the genital glands, and the medulla derived from the sympathetic and neuro-ectodermal in origin. These two portions are separated from each other in elasmo branch fishes, the cortical cells forming the single inter-renal gland and the medullary cells a series of paired bodies connected with the sympathetic (Swale

* The Address in Medicine delivered at the meeting of the Canadian Medical Association at Montreal, September 12th, 1907.

Vincent). It will be convenient to discuss the cortex and medulla separately.

The Cortex.

The cortex is larger than the medulla and is composed of epithelial cells the structure of which suggests a high degree of functional activity; in Biedl's hands experimental removal of the cortex, the medulla being left intact, was followed by death of the animals; and it is stated that compensatory hypertrophy of accessory suprarenals, when this occurs, after excision of the main glands, is solely cortical. These considerations strongly suggest that the cortex has some important function and that it is essential to life, but in what exact way is as yet unknown. The most certain point about the cortex is that it is quite unlike the medulla. Its cells contain fat and lecithin, the significance of which is unknown, but do not give a green color with ferric chloride (Vulpian's reaction), or a brown color with chromic acid, as the (chromaffine) cells of the medulla do. Physiologically extracts of the cortex are quite inactive and do not raise the blood-pressure. Our knowledge as to the function of the cortex is very imperfect, but some arguments can be adduced in favor of each of the three following views, namely, that it may be concerned (1) with growth and development, especially of the sexual organs; (2) with neutralization of poisons, or (3) in some manner with the internal secretion of the medulla—adrenalin.

1. The relation of the cortex of the suprarenals to growth and development, especially of the sexual organs.—It is now known that there is a definite group of cases in young children, the peculiar feature of the cases being that a primary tumor of the suprarenal body (hypernephroma, mesothelioma, Woolley)[1] is associated with excessive development of the organs of generation, hair, and fat. Bulloch and Sequira[2] have collected ten cases, all but two under eight years of age, two in males and eight in females, showing this precocious development in association with a hypernephroma which, in some of the cases at any rate, was derived from the cortex of the suprarenal; future researches will naturally be directed to determining whether hypernephromas of cortical origin are, as suggested here, specially associated with exaggerated growth, while hypernephromas arising in the medulla of the suprarenal show no such association. Bulloch and Sequira have indeed collected twelve cases of hypernephromas in children who did not show any signs of premature development, and in some of these cases the tumors, described as sarcomas or lympho-sarcomas, were definitely regarded as arising from the medulla of the gland. It must, however, be noted that in adults cortical hypernephromas, which are probably more often seen in the kidney (renal hypernephromas or adrenal "rest" tumors) than in

the main adrenal gland, are not associated with the notable genital development, hirsuties, and obesity seen in children. As rare exceptions to this rule, attention may be directed to Thornton's[3] case of a woman aged thirty-six years, who was covered all over with black, silky hair and had to shave her face, and to a somewhat similar case in a female lunatic aged thirty-two years (Richards), in both of which hypernephromas were present. In passing it is interesting to note the rarity of renal tumors of adrenal origin in children as compared with the incidence of these tumors in adults and with the incidence of hypernephromas in early life. But, although excessive genital development and growth of hair in a child should always suggest the existence of a cortical hypernephroma, it must be remembered that these striking signs may exist without any such lesion in the suprarenals (Guthrie and Emery).[4] As bearing on the connection between exaggerated cellular growth of the suprarenal cortex and the development of the genital organs, a few cases are on record in which suprarenal hyperplasia has been found in individuals with such excessive size of the clitoris that they were erroneously regarded as males. Further, enlargement of the suprarenals has been noted in animals during periods of sexual activity and pregnancy; and it has appeared to me that there is a close resemblance between the cells of the suprarenal cortex, on the one hand, and the luteal cells normally found in corpora lutea, and exceptionally in luteal cysts, on the other hand. This resemblance, both histologically and morphologically, has been insisted on by Mulon,[5] who, from observation on guinea pigs, speaks of the corpus luteum of pregnancy as a temporary cortical suprarenal. It is interesting to compare the developmental anomalies accompanying some cortical hypernephromas with acromegaly, which is usually associated with hyperplasia or adenomatous change in the anterior lobe of the pituitary gland. For, as Schäfer and Herring[6] point out, the anterior lobe of the pituitary and the cortex of the adrenal are alike in several particulars, namely, in the glandular character of their epithelium, in the physiological inactivity of their extracts, and in ensheathing collections of neuro-octodermal cells (the posterior or infundibular lobe, and the adrenal medulla) which, on the contrary, possess extremely active physiological extracts. As bearing in a somewhat remote manner on the relation of the suprarenal cortex to the growth of the body it may be mentioned that evidence is accumulating to show that primary malignant growths of the cortex, like primary carcinomas of the thyroid, have a special tendency to produce metastases in bone (Scudder).[7] This association has also been independently noticed by Prof. Adami. This similarity of the thyroid is of interest in the light of the well-established influence of the thyroid on skeletal growth.

Conversely, hypoplasia of the suprarenals has been found in anencephalous monsters; but the relation between the two developmental abnormalities is doubtful, Zander[8] regarding the lesion of the nervous system as primary and Alexander[9] considering the suprarenal defect as primary. Very possibly, however, the failure of development is concomitant, in any case this association is not a strong argument in support of the influence of the suprarenal cortex on the growth of the body, for the hypoplasia of the suprarenals appears to affect the cortex and medulla equally and not to be especially marked in the cortex. Hypoplasia of the suprarenals has been met with in a few cases of retarded sexual development, and in the case of osteogenesis imperfecta Lovett and Nichols[10] found the internal organs normal with the exception of the small size of the suprarenals. It has also been suggested, but in no way proved, that mollities ossium is connected with suprarenal inadequacy.

There thus appears to be evidence that in some instances pathological changes in the cortex of the suprarenal glands, whether in the direction of hyperplasia or of imperfect development, are associated with similar conditions of growth generally, and especially of the genital organs.

2. The question whether the suprarenal cortex has the power of neutralizing certain toxins is a subject about which very little is known, and on which it is dangerous though attractive to speculate. It was formerly thought that the suprarenal bodies destroyed effete blood-pigment, but this conception has been given up for want of proof. That the cortex may exert antidotal properties is suggested by Myers'[11] observations that cobra poison, after being mixed with an emulsion of the suprarenal cortex was no longer toxic, control experiments with emulsions of the suprarenal medulla and of other organs being negative. Experimental infections with various organisms, such as bacillus, tuberculosis, slow diphtherial intoxication and lead poisoning (Gouget)[12] have been found to give rise to hypertrophy of the cortex of the adrenal glands, thus suggesting increased functional activity. It may be mentioned incidentally that according to Mulon[13] the histological evidence of over-activity (hyperépinéphrie) of the cortex is increased pigmentation and diminished fat in its cells.

Adenomas or nodular hyperplasia of the suprarenal cortex are found in a certain number of autopsies. In 6,200 autopsies at St. George's Hospital, London, adenomas were present in 11 cases, or 0.2 per cent. (Hodge), and at Guy's Hospital in 0.7 per cent. of autopsies (Richards). They are sometimes found in cases of chronic pulmonary tuberculosis, but special attention has been drawn to the association of cortical edenomas with granular kidneys and high blood-pressure, and it has been pointed out that

they are rare in cases of chronic nephritis with low blood-pressure. There would therefore appear to be some relation between their presence and high arterial blood-pressure; as the cortex does not contain any pressor substance it cannot be held that the cortical hyperplasia has any direct influence in causing the increased pressure, and it has been suggested that the adenomas are evidence of an attempt on the part of the cortex to neutralize the toxins responsible for the high blood-pressure (Aubertin and Ambard).[14] As bearing on this it may be mentioned that it is stated that experimental lesions of the kidney lead to hyperplasia of the adrenals (Darré).[15] The main interest of the speculation as to the existence of an antitoxic function in the cortex of the adrenal glands is in connection with the pathogenesis of Addison's disease. The low blood-pressure and extreme asthenia in that disease can be satisfactorily explained as due to an absence of adrenalin or the pressor substance provided by the medulla, but the vomiting, gastro-intestinal disturbance, and the pigmentation suggest irritation of the sympathetic. This has, in the past, usually been attributed to invasion of the adjacent sympathetic by inflammatory changes, or adhesions or to mechanical stimulation of these nerve plexuses by tuberculous masses in the adrenal glands; but this explanation breaks down for cases in which the adrenals are only atrophied. To meet this objection it has been supposed that the absence of adrenalin leads, by perverted metabolism, to a toxemic state and that this toxemia accounts for the irritative manifestations. On the other hand, Addison's disease might be regarded as the outcome of total suprarenal inadequacy, namely, of (*a*) medullary inadequacy which, by the absence of adrenalin accounts for asthenia and low blood-pressure, and of (*b*) cortical inadequacy, which accounts for the irritative symptoms by failure or an antitoxic function exerted by this part of the organ. It is conceivable that, owing to destruction or atrophy of the cortex there is no longer neutralization of toxic bodies, and that these accumulate and irritate the sympathetic. In this connection it may be pointed out that the widespread distribution of pigmentation is more readily explained by a general toxemic irritation of the system in general rather than by a local irritation of the sympathetic. It may also be urged in favor of this hypothesis that it explains why suprarenal extract so commonly fails to cure Addison's disease in the same way that thyroid extract counteracts myxedema; for, although suprarenal extract provides the waning adrenalin, the extract of the cortex, even when given, is not necessarily the equivalent of the activities of the living cells of the tissue.

3. That the cortex is in some way concerned with the internal secretion of the medulla.—Although it does not contain any

pressor substance it is conceivable that the cortex plays an essential part in the early stages of the formation of adrenalin and that the process of elaboration is completed in the medulla, in which part alone the full activity of the secretion is acquired. In favor of this hypothesis Schäfer and Herring[16] point out the analogy between the pituitary and the suprarenal glands; in both, the glandular epithelial parts (anterior lobe and cortex) are inactive, while the neuro-ectodermal parts (infundibular portion and medulla) yield a highly active extract. The close anatomical relation of the epithelial and neuro-ectodermal parts in the two glands suggests that their physiological relation may be equally close.

We have seen that these views at least have been put forward as to the function of the cortex: (1) That it is connected with growth, especially of the sexual organs, (2) that it is antitoxic, (3) and that it plays some part in the elaboration of the internal secretion of the medulla. *A priori* it would appear improbable that the cortex discharges all these three functions, but from experiments on animals Marrassini[17] has put forward the view that the three zones of the cortex—zona glomerulosa, zona fasciculata, and zona reticularis—have different functions; this is little more than a suggestion, but it shows the need of waiting for further investigation. The most definite point about the cortex would appear to be that it is correlated with sexual growth.

The Medulla.

The cells of the medulla provide a pressor substance—adrenalin—which acts on the sympathetic nerve endings. These cells, called chromophil or chromaffine, from their affinity for chromic acid, are not confined to the medulla of the suprarenal glands, but are found elsewhere in contact with the sympathetic, as Zuckerkandl's parasympathetic bodies, the inter-carotid gland which has been described as an accessory medullary adrenal (Mulon),[18] Luschka's coccygeal gland, and some collections of cells in the pituitary body. The medulla of the suprarenals therefore forms the most conspicuous part but not the whole of what has been called the hypertensive glandular system. The importance of this conception is that it explains why cases with destruction of the medullary portions of the adrenals do not always manifest the symptoms of Addison's disease, the remainder of the chromaffine system being sufficient to supply the required amount of adrenalin; conversely in some cases of Addison's disease in which the medulla of the suprarenals is not obviously affected, the hypertensive system as a whole may conceivably be deficient.

1. Alteration in quantity.—(*a*) Complete absence of the internal secretion is met with in Addison's disease, as is proved

by the inactive condition of the medulla when tested physiologically. It has also been shown that the suprarenal medulla may be devoid of adrenalin in patients dying from chronic exhausting diseases, and that though there is often obvious naked-eye change in the glands this is not an invariable accompaniment of the loss of functional activity (Mott and Halliburton). As bearing on the interesting question whether there is normally an equilibrium between the pressor or hypertensive internal secretions of the medulla of the suprarenals and of the other collections of chromaffine cells on the one hand, and the depressor internal secretion of the thyroid on the other hand, it may be pointed out that in Addison's disease a relative excess of the internal secretion of the thyroid might be expected on account of the absence of adrenalin. There is, however, no evidence of this in Addison's disease; there are no symptoms resembling those produced by overdoses of thyroid extract or thyroidism, and so far as this goes it would appear that if there be normally a balance between the internal secretions of the suprarenal and thyroid glands, this balance is partially maintained, possibly by diminished thyroid secretion or by some neutralization of the active thyroid secretion by the tissues of the body, when the internal secretion of adrenalin fails entirely. There is, of course, one manifestation common to Addison's disease and exophthalmic goitre, namely, pigmentation, but it is very difficult, in the present state of our knowledge, to explain this as the result of one and the same process in the two diseases; it is much more likely that in both cases there is over-excitation of the sympathetic nerves, in exophthalmic goitre by an excessive and abnormal thyroid secretion and in Addison's disease by a toxemia possibly depending on inadequacy of a hypothetical antitoxic function of the cortex of the suprarenals.

(*b*) Diminution in the amount of adrenalin may be considered under the heads of (1) chronic inadequacy; (2) acute inadequacy; (3)relative inadequacy.

(1) Chronic inadequacy.—The existence of cases of larval or fruste myxedema, or benign hypothyroidism, has now long been recognized. The most convincing proof of its existence in a given case is improvement after the administration of thyroid extract. Similarly, there is a condition of deficient adrenalin secretion. Possibly in some cases this defect of the adrenalin-secreting cells may be congenital; and it has been suggested that the status lymphaticus and hemophilia are thus explained (Wiesel). A condition of deficient secretion of adrenalin or partial medullary inadequacy is probably more commonly acquired and the result of morbid changes in the medulla. These changes may be due to tuberculous, syphilitic, or cancerous invasion secondary to disease elsewhere in the body; or toxins conveyed from other parts of the

body, for example, the lungs in cases of tuberculosis, may so act on the suprarenals as to produce degeneration and fibrosis; or again, as the result of acute infections, such as staphylococcal or pneumococcal, the suprarenals may be permanently damaged and suprarenal inadequacy be established; this sequence of events is analogous to chronic nephritis after an acute attack of nephritis. To this condition of suprarenal inadequacy the name Addisonism has been applied by Boinet,[19] who, in thirty-seven cases of pulmonary tuberculosis manifesting Addisonism, found the suprarenal bodies fibrosed in thirty, infiltrated with small tubercles in four, and with caseous tubercles in three. This conception has some bearing on the pigmentation which so commonly accompanies advanced pulmonary tuberculosis and often raises the question as to the existence of Addison's disease. Everyone is familiar with these cases, but as the symptoms are not sufficiently marked to justify a diagnosis of Addison's disease the tendency has been rather to put the factor of the suprarenals aside in attempting to explain the melanodermia of advanced phthisis. Since it has been shown that the suprarenal medulla may be devoid of adrenalin in exhausting diseases (Mott and Haliburton), there appears to be reasonable ground for the view that Addisonism may be present in these cases. Boinet recommends adrenalin in these cases; in order to determine whether there is or is not suprarenal inadequacy the effect of adrenalin on the arterial blood-pressure should be estimated, for O. F. Grünbaum[20] has shown that in healthy persons suprarenal extract has no effect on blood-pressure, but that a rise of blood-pressure, after the administration of suprarenal extract indicates suprarenal inadequacy. This method of diagnosis and treatment deserves further trial. But it must be borne in mind that though low blood-pressure and asthenia may be counteracted by adrenalin, the pigmentation has not been proved to depend on want of the internal secretion of the medulla and hence it cannot be anticipated that the administration of adrenalin will remove the melanodermia, which may indeed depend on a concomitant lesion in the cortex.

Just as numerous symptoms have been referred to benign hypothyroidism, so it is not illogical to suppose that various conditions, characterized by low blood-pressure and debility, both of the involuntary and voluntary muscles, may depend on an insufficient supply of adrenalin. Thus, it has been suggested, but by no means proved, that cyclical albuminuria, and those forms of neurasthenia associated with low blood-pressure are manifestations of adrenal insufficiency.

(2) Acute adrenal insufficiency.—It occasionally happens that death occurs suddenly in patients suspected to be the subjects of Addison's disease on account of some abnormal pigmentation, but

without very definite constitutional symptoms; or that persons previously in fair health and certainly not known to have any disease, suddenly become acutely ill, often with convulsions, and die rapidly from collapse. In some of these cases tuberculous disease of the suprarenal bodies is found at the autopsy and death is perhaps certified to as due to Addison's disease. Though this conclusion is in the main correct, it does not explain the fulminating character of the termination. It is probable that this is due to some form of acute infection attacking the suprarenal glands and leading to suppression of their functional activity, and it can easily be understood that this will occur more readily when the amount of suprarenal medullary substance available has been previously curtailed. In many acute infections, especially in diphtheria, the micro-organisms or toxins produce acute changes, such as cloudy swelling, necrosis, leucocytic infiltration, in adrenals previously healthy. In some instances the damage is so acute that hemorrhage occurs into the glands; this acute condition of adrenal hemorrhage has been specially studied in children and it has been suggested on the one hand that rapidly fatal hemorrhagic smallpox explains some of the cases, thus of ten recorded cases seven were unvaccinated (Riviere),[21] and on the other hand, that the condition is due to food poisoning or an acute toxemia of unknown origin and is possibly a distinct disease (Dudgeon).[22] Acute adrenal hemorrhage may also complicate various fevers such as diphtheria, enteric, pneumonia, erysipelas. The hemorrhages may be punctate, infiltrating or massive, unilateral or bilateral. The most characteristic symptoms of these adrenal hemorrhages are sudden onset with fever, violent pain in the hypochondrium radiating to the loins, convulsions, vomiting, diarrhea, and later tympanites, collapse, and death within forty-eight hours from the onset. No doubt damage is done to the adjacent abdominal sympathetic by the hemorrhage and thus clinical manifestations analogous to those of hemorrhagic pancreatitis are produced. Cutaneous purpura is sometimes associated with hemorrhage into the adrenals, as in variola, and it would, at any rate at first sight, appear probable that some underlying cause—toxemia or bacteremia—is responsible for both sets of hemorrhages. It has, however, been thought that the changes in the adrenals are primary and the purpura secondary (Loeper),[23] that purpura may stand in the same relation to acute destruction of the suprarenals as pigmentation does to chronic destruction (Dudgeon), and that the proper treatment is to give adrenalin. As arising out of this it is worth while to enquire to what extent the low blood-pressure and circulatory failure seen in acute febrile diseases is the result of temporary suprarenal inadequacy, brought about by the action of bacterial toxins on the cells of the medulla of the suprarenal

bodies. The action of toxins on the heart muscle cannot be questioned, but it is conceivable that some of the loss of vascular tone in fever is due to a want of adrenalin and that it is not entirely the result of the direct action of toxins on the vascular system. This question is of practical importance as bearing on the advisability of giving adrenalin in acute diseases with threatened failure of the circulation. That the amount of adrenalin in the suprarenal glands may be greatly diminished by acute disease has been shown by testing the glands physiologically (Mott and Halliburton).[24] In poisoning by diphtheria the medulla of animals is devoid of adrenalin as shown by the color reaction with chromic acid (Elliott and Tuckett),[25] and it had previously been found empirically that adrenalin was of great value in the cardiac failure of diphtheria. An obvious objection to the administration of adrenalin in such conditions is that if it increases the peripheral resistance it will of necessity give the failing left ventricle more work to do, and so be harmful rather than beneficial. I have, however, for some considerable time been in the habit of giving adrenalin by the mouth in cases of pneumonia in adults, and in bronchopneumonia in children, and, I believe, with good results; it has appeared to prevent cardiac failure and has not given rise to any bad symptoms such as pulmonary edema. Another objection raised against the use of adrenalin is that experimentally it produces arterial degeneration; as bearing on this I have examined the aorta in a few cases in which adrenalin had been given during life and have not found any recent changes. But I do not lay any stress on this for several reasons—my observations are quite insufficient, the amount and duration of the administration of adrenalin were not comparable with those employed in the experimental degeneration, and even if recent changes were found it might be argued that they were due to toxins of the disease responsible for death. While I believe that adrenalin is a valuable circulatory tonic in acute infections, especially pneumonia, I am anxious that this point should be more thoroughly tested; especially as I have found but little increase in the blood-pressure of febrile patients showing apparent improvement while taking adrenalin.

(3) Relative inadequacy of the internal secretion of the medulla.—By this is meant that if there be normally a balance between the effects of the pressor and depressor glands, any excessive secretion (depressor) of the thyroid should lead, the pressor secretion maintaining the normal mean, to a relative deficiency of the antagonizing internal secretion. The question that arises here is whether the symptoms of thyroidism, of exophthalmic goitre, and the allied toxic manifestations which, as Sir Victor Horsley[26] points out, may sometimes be seen in ordinary goitre,

are in any degree due to a relative deficiency in the secretion of adrenalin. It is clear from Janeway's[27] summary that the blood-pressure is not low in exophthalmic goitre as might be expected if the disease be regarded as due to simple hyperthyroidism, and that it may be very considerably raised as the result of psychical excitement. In the few cases in which I have taken the blood-pressure with a Riva-Rocci sphygmometer, it has been rather above than below the normal. It is true that in some cases of exophthalmic goitre improvement has followed the administration of suprarenal extract; I have seen this myself. But it must be remembered that exophthalmic goitre often improves both spontaneously and after widely different forms of treatment, and that it has not been shown that suprarenal medication is a certain means of counteracting the symptoms of exophthalmic goitre. We have therefore no evidence that an excess of thyroid secretion produces bad effects by means of a relative deficiency in adrenalin.

(*c*) Excessive secretion of adrenalin.—Here again very little is known. The excess might conceivably be (1) due to an excessive secretion of adrenalin by the medulla, or absolute excess, or (2) be relative and depend on a diminution in the amount of the thyroid secretion.

(1) Since the demonstration that atheroma can be artificially produced in animals by the injection of adrenalin (Josué,[28] Pearce and Stanton,[29] and others), the question has arisen whether high arterial blood-pressure in man and its results—hypertrophy of the left ventricle, arteriosclerosis, atrophic changes in the kidneys and so forth—may be due to an excess of adrenalin in the circulation. As it is generally believed that in renal disease a raised blood-pressure is, within limits, useful, it might be assumed that this compensatory process is brought about by hyperplasia of the suprarenal medulla. Let us see how the evidence available bears on this question. From some experiments on animals Marrassini[30] concludes that interference with the renal excretion increases the functional activity of the adrena medulla. A case of parenchymatous nephritis with great hypertrophy of the left ventricle and manifest hyperplasia of the medulla of the suprarenals has been reported (Vaquez and Aubertin),[31] and might be taken to support this view. But as regards this special form of renal disease this would appear to be almost an isolated observation. Wiesel[32] has recorded a number of cases of high blood-pressure, arteriosclerosis, and granular kidney associated with enlargement of the suprarenal medulla and also of the chromaffine cells in the solar plexus. Here it might at first be thought that the suprarenal change was the cause of the high blood-pressure and the structural changes, as in experimental atheroma. It has, it is interesting to note, been suggested (W. Russell)[33] that certain foods, especially proteins,

may lead to increased secretion of adrenalin. It would thus be possible to construct a hypothesis of dietetic excess, absorption from the intestine of toxic bodies which stimulate the medulla of the suprarenals to increased functional activity followed by hypertrophy, and that subsequently the cardio-vascular changes are produced. But Wiesel believes that the cardiac hypertrophy precedes the hyperplasia of the suprarenal medulla and is not due to it. This relation between the sequence of events must be somewhat difficult to determine and the subject is in need of further study. But it is clear that at present there is no proof of the existence of any disease due to excessive adrenalin secretion, and corresponding to exophthalmic goitre in the case of the thyroid, but on this point we must be content to wait for further information.

(3) Relative excess due to a deficiency in the amount of antagonizing depressor internal secretion.—It is conceivable that as the result of the atrophy of the thyroid which so commonly accompanies advancing years, the equilibrium normally existing between the internal secretions of the thyroid (depressor) and of the adrenal medulla (pressor) would no longer be maintained, and that an excess of adrenalin would therefore accumulate in the circulation and thus induce a correspondingly high arterial pressure. In other words, that the rise of arterial blood-pressure as life advances is due to a predominance of the pressor internal secretions. In support of this it might be urged that in myxedema it is common to find arteriosclerosis and granular kidney, which are the results of long continued high blood-pressure; but too much stress must not be laid on this, for the age of myxedematous patients approaches that at which vascular degeneration is common, and in a certain number of cases of myxedema the kidneys are healthy.

To return again to the question whether the hypothetical equilibrium between the depressor and pressor internal secretions may be upset by a deficiency of one, so that the other secretion has a paramount influence, Gioffredi's[34] conclusions are to the effect that normally certain organs and tissues—the liver, the blood, and to a less extent the voluntary muscles—transform adrenalin into an inactive product and so protect the body against the toxic results of an excess of adrenalin which might otherwise result. In order to exert this change the blood must be provided with oxygen and be alkaline, but those conditions are not necessary in the case of the liver and voluntary muscles. It is conceivable that such a compensatory mechanism might fail under the same conditions as those under which the thyroid secretion wanes, and that then a relative excess of adrenalin in the circulation would result. These considerations are highly speculative, but they may perhaps be forgiven because they bear in a some-

what remote manner on an important practical point, namely, the prevention and reduction of the rising arterial pressure of advancing years. For they suggest that the administration of thyroid extract might have this desired result, and that it may prove to be the routine treatment. Iodides which are so widely given in clinical medicine in order to lower blood-pressure have been shown to have no depressing effect on the heart or blood-pressure (Stockman and Charteris);[35] but it is conceivable that they eventually lower blood-pressure by stimulating the thyroid to an increased secretion.

2. Alteration in quality.—Of alterations in the quality of secretions very little is known if we except the gastric juice, but it is reasonable to believe that in the future this factor will attract attention and be shown to have most important pathological bearings. The adenomatous changes in the thyroid in exophthalmic goitre and in the pituitary body in acromegaly may safely be assumed to lead to an altered internal secretion, and so to have a causal bearing on the associated diseases.

In the case of the adrenal medulla nothing is known as to any alteration in the quality of the secretion. It is somewhat wild speculation, but it may be mentioned for what it is worth that possibly intestinal toxins may so act on the cells of the adrenal medulla as to produce an internal secretion of such an abnormal character that the normal process of transformation of any excess into an inactive body, as suggested by Gioffredi, cannot be carried out by the tissues. The excess of such abnormal adrenalin might conceivably cause high arterial pressure, arteriosclerosis and the allied morbid changes.

Mr. President and gentlemen, my address is now at an end, and I feel as I have felt all along since I began it some months ago that I must apologize for its imperfections and for its speculative character. I have tried to comfort myself by thinking that it is well from time to time to take stock of the current researches and hypotheses which sometimes become the working basis for the practice of to-morrow. But I must not excuse myself or make further demands on your patience, and must again thank you for an honor I shall never forget.

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SOME LAMPS OF SCIENCE.*

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In delivering an inaugural lecture it is fitting that I should address you upon a topic connected with my special subject. But this lecture is also the opening lecture of the session, and is therefore to be especially addressed to the students of the Department, among whom are some who are no longer novitiates in the science of anatomy, and others to whom the methods and principles of that science are as yet closed books. It behooves me, therefore, to avoid both what might seem platitudes to some and what might appear technicalities to others, and to offer the mental pabulum I have to present neither in shallow platters from which only the foxes may partake nor in slender-necked vessels suitable only for the use of storks.

It has seemed on due consideration that a vessel suitable for both the foxes and the storks might be found in the well-equipped stores of history, and that from a repast served therein some food for thought might be offered both to the tyro and to the expert. The history of anatomy and of medicine, for the two have always been intimately associated, carries us back, however, to the dawn of civilization, and it would be futile in the course of a single lecture to attempt even a fairly complete outline of so large a subject; indeed, the time at my disposal would barely suffice for the mere mention of the names of those who have contributed to the development of anatomy. But among these names there are several which stand pre-eminent, which mark eras of development and are the names of men who, with a rod of their own fashioning, have struck the rock until it gushed forth waters—waters which in some cases have indeed been waters of Meribah.

Selecting some of these names, it may profit us to consider what they mean to anatomists, what were the services rendered by the men whom they designate, and what were the methods by which these men achieved pre-eminence. In the case of each one some quality or qualities stand out conspicuously, and a study of these may yield us some clues to success in scientific achievement.

We may first look back to a period somewhat more than three hundred years before the Christian era, at which time a famous school of medicine flourished at Alexandria under the favoring influence of Ptolemy Soter. Among the most renowned teachers

* Opening Lecture to the students of the Medical Department of the University of Toronto, October 1st, 1907.

of this school was Herophilus, a native of Chalcedon and a pupil of Praxagorus, the last of the Asclepiads, the family of priest-physicians who traced their descent from Æsculapius. Little has come down to us concerning the details of the life of Herophilus, nor are any of his works still extant; our knowledge of his achievments is based upon statements made by later authors and especially by Galen. From these references, however, it is not difficult to perceive in Herophilus the founder of anatomy. Before his time anatomy, in the true sense of the word, can hardly be said to have existed. Not that his predecessors were entirely devoid of some knowledge of the parts of the body, but this knowledge was little more than such as might readily be obtained by the inspection of parts as exposed by the mere opening of the body cavities. Of dissection, the careful isolation of parts, there is little evidence in the works of Hippocrates, the greatest physician of classical times, and even from Aristotle, so rich in facts concerning the parts of animals, one seeks in vain for unimpeachable evidence of careful dissections of the human body. The religious beliefs, as well as the mode of thought of the Greeks, were opposed to such procedure. They were more inclined to theorize than to observe, their methods were deductive rather than inductive, and the failure of their philosophy from the standpoint of the scientist is well stated by Whewell. "They ought," he says, "to have reformed and fixed their usual conceptions by observation; they only analyzed and expanded them by reflection; they ought to have sought by trial, among the notions which passed through their minds, some one which admitted of exact application to facts; they selected arbitrarily, and, consequently, erroneously, the notions according to which facts should be assembled or arranged; they ought to have collected clear, fundamental ideas from the world of things by *inductive* acts of thought; they only derived results by *deduction* from one or other of their familiar conceptions." From these words we may form a clear idea of the essentials which go to form the scientific spirit, and lacking these, it is little wonder that under the Greek influence anatomy made little progress.

It is the great glory of Herophilus that he emancipated himself from the Greek method of thought. His master, Praxagorus, had insisted upon the necessity of comparing the structures of the human body with those of lower animals, which were much more thoroughly known, and while opportunities for carrying out his own advice were for Praxagorus few and far between, yet we may believe that the teaching stimulated the pupil and when Herophilus found at Alexandria opportunities for observations on the human body, under the liberal and personal encouragement of the Egyptian king, he did not fail to take advantage of them. Galen tells

us that he made a great many observations not only on the lower animals, as others did, but also upon the human body, and Tertullian speaks of him with condemnation as "Herophilus, that physician or butcher, who dissected six hundred human bodies." Indeed, it is even asserted by Tertullian and by Celsus that he practised vivisection on criminals, but whether this statement may be accepted as reliable or whether it is not rather an exaggeration of an act unusual in itself and magnified by popular repetition, is uncertain.

From the few scattered notices we still possess of his results it is evident that Herophilus added greatly to the knowledge of the structure of the human body possessed by his predecessors, and it is interesting to note that some of the terms employed by him to designate certain parts are in use to-day after the lapse of twenty-two centuries. Thus he was the first to describe accurately the duodenum and to bestow that name upon it; he likened the posterior portion of the fourth ventricle to a writing pen (calamus scriptorius); he compared the confluence of the cranial sinuses to a wine-press (torcular Herophili); and he described the membranes of the brain as the arachnoid and dura mater. Furthermore, he recognized the brain as the seat of perception, correcting the erroneous Hippocratic conception of it as a gland which served to secrete moisture; he discovered the retina, which he regarded as the centre for visual perceptions; he traced the origin of the peripheral nerves to the brain and spinal cord; he distinguished arteries and veins by their structure and maintained that both contained blood; he recognized the pulmonary artery and veins, naming the former the venous artery and the latter the arterial veins, thus laying a foundation for the long-delayed discovery of the circulation of the blood; and, finally, he discovered in the mesentery vessels which did not pass to the liver but terminated in gland-like bodies, thus anticipating by many centuries the rediscovery of the lymphatics by Aselli in 1622.

All these were discoveries establishing the knowledge of the parts of the human body and their relations on an entirely different basis from that which they had held under his predecessors. And when we consider that these are mere fragments of his results, recorded by later authors, we cannot help regretting deeply the loss of his completed writings.

It was then the *lamp of observation* that enabled Herophilus so to enrich the science he professed. Casting aside what Bacon termed "di-gladiation over subtilties," that is to say, the dialectic and sophistic speculation of his predecessors, he lighted this lamp for anatomy and revealed a new world. Observation is the key-note of progress in science, and for you as future practitioners of medicine there is no faculty so necessary of cultivation. It is the

possession of the power of keen observation that makes as well the productive scientist as the successful practitioner, and unless the lamp of observation be kept well lighted and trimmed the fulfilment of our responsibilities as scientists and physicians is impossible.

Before the second lamp of anatomy was lighted a period of four hundred and fifty years elapsed. Like Lief Ericssen, Herophilus discovered a great continent only for it to disappear, except as a tradition, and to be rediscovered centuries later, for with his death and that of his contemporary, Erasistratus, the method he followed fell into disuse and his successors were content to accept without question and without emulation the doctrines he had set forth. Actual observations upon the human body were practically abandoned for many hundreds of years, Galen himself, who is our second subject for consideration, confining his anatomical observations almost entirely to apes, dogs, and other lower animals. But while Galen contributed largely to the progress of anatomy by these observations, it is to another side of his versatile mind that I wish especially to direct your attention, considering chiefly the quality which made him the supreme authority throughout the middle ages in matters of medical import, just as Aristotle was the supreme authority in matters philosophical.

Galen was born A.D. 131 in Pergamos and had for his father Nicon, a senator of Pergamos, not without repute for his knowledge of the mathematical sciences and renowned for his acquaintance with the Greek dialects. Under his guidance Galen began his education and until the age of fifteen confined his attention to the humanities, mathematics, logic and grammar. His father, he tells us, made him read in his youth the good ancient authors who wrote in the Greek tongue, and he is said also to have become familiar with Latin, Ethiopian and Persian. From fifteen to seventeen he devoted himself to the study of philosophy, acquiring an interest in that study which he retained throughout life and which he valued highly.

Having thus prepared himself by a thorough grounding in the mathematics, literature and philosophy of his day, he entered upon his medical studies in his seventeenth year. He began these studies at Pergamos and continued them later at Smyrna, still later at Corinth, and finally at Alexandria, where at the age of twenty-eight he completed them, having thus devoted not four or five, but no less than eleven years to learning the principles of the profession of which he became so distinguished an ornament.

Like Herophilus, Galen laid great store by the lamp of observation, and several anecdotes of his keenness of perception as manifested in diagnosis have come down to us. He was an adept in the art of dissection and practiced it extensively, thereby add-

ing many new facts to anatomical knowledge. Unfortunately, however, he lacked the opportunities for the dissection of human bodies enjoyed by Herophilus, and was obliged to content himself with studies of the lower animals, choosing especially those which bore the greatest general resemblance to man. This in itself was not so great a disadvantage, for many of the fundamental facts of anatomy may be as well worked out on the cadaver of a dog as on that of a man. But Galen fell into a serious error in that he assumed that the form and proportions of the organs of the animals he studied were identical with those of the corresponding human organs, and, indeed, he described his observations as if they had actually been made on the human body. This error led to grievous results, for, since Galen's writings became the accepted authority upon medicine throughout the middle ages, the antomy taught in the schools for many centuries was not the anatomy of the human body. Similar errors have frequently been made since Galen's day, and they have ever led to unfortunate results. Let us be warned by these and ever remember that assumptions uncontrolled by observation and stated as actualities should have no place in scientific literature or thought. If an assumption must be made, let it be clearly understood that it is an assumption. "x equals y" is a very different statement from "let us assume that x equals y." Assumptions may frequently be necessary as working hypotheses to be profitably employed as guides for further observation, but, as we value our reputations and that of our profession, let us most carefully refrain from either stating or adopting them as facts. We must not allow our jackdaws to strut in peacocks' feathers.

But while Galen's contributions to the facts of anatomy are thus open to criticism, we must recognize that he gave to his successors through many generations an anatomy more compendious and accurate than any that had seen the light before his day. His osteology was far in advance of that of his predecessors, and although the bones are not described with that minuteness of detail which we find in modern text-books, yet they are described with intelligence and on the whole with accuracy, so much so that many of the names by which we know them to-day trace back to Galen's writings. He rediscovered the fact that the arteries contain blood, a fact already announced by Herophilus but denied by Praxagorus and Erasistratus; and he likewise demonstrated again the origin of the nerves from the brain and cord, the successors of Herophilus having forgotten his teachings and returned to the older view that the nerves had their origin in the heart, a view largely due to the inability of the older authors to distinguish between nerves and tendons. He recognized the relations of nerve to muscle much more accurately than his predecessors

and extended greatly their knowledge of the nervous system, discovering the recurrent nerve, the extension of the vagus nerve to the abdomen, and some of the larger sympathetic ganglia, although he failed to perceive the ganglionated cord. But the enumeration of his discoveries is not to my purpose just now. Let it suffice to know that he worked assiduously in the light of the lamp of observation and gave to the world an anatomy more thorough than had existed before his time and one which served as practically the sole guide to anatomical knowledge for centuries after his death, which occurred in A.D. 201.

The other characteristic that I wish especially to dwell upon was his broad general knowledge. It was the combination of this with highly trained powers of observation that made Galen the medical authority of the middle ages. He worked in the light of the lamp of observation reinforced by that of the *lamp of knowledge*, and it was this latter light that enabled him, the wisest man of his day and of many succeeding generations, to deduce principles from his observations and to place anatomy and medicine upon a philosophic basis. Knowledge was power to him, and it was the very breadth of his knowledge that made him what he was. We have seen that he devoted no less than eleven years in mastering the principles of his profession, and the numerous references in his writings show him to have been thoroughly familiar with the writings of the older authors. His example in this respect lasted throughout the dark ages, the physicians of those days showing a familiarity with medical literature which is worthy of emulation. Chaucer's picture of the "verrey parfight practisour," whom we may take as a type of the mediæval physician, showed him well versed in medical lore.

> "Wel knew he the olde Esculapius
> And Deiscorides, and eek Rufus;
> Old Hypocras, Haly, and Galien,
> Serapyon, Razis and Avicen;
> Averrois, Damascien, and Constantyn,
> Bernard and Gatesden and Gilbertyn."

But Galen's knowledge was not limited by the necessities of his profession; his was a broader knowledge and hence a greater power, and it is to this that Galen himself attributed his success. I have mentioned his continued interest in the study of philosophy; let us hear what he himself says as to its value. "I did not," he says, "begin yesterday or the day before yesterday to love and study philosophy; it has attracted me from my youth. After I had devoted myself to medicine, as the result of a dream of my father, I continued throughout my life to cultivate the two

sciences. It is not, then, astonishing that having studied diligently while others paid visits in the town and supped with the rich, I should have acquired a knowledge of all that the ancients have discovered and should have placed myself in condition to profit from them in the exercise of my profession."

Even at the expense of repetition I must insist upon the combination of observation and knowledge as the source of Galen's extraordinary influence upon succeeding generations, and I would emphasize further the correlation of his power for good with the breadth of his knowledge. What was true for Galen is true for each of you, and if you keep the lamp of knowledge lighted and allow its beams to light for you not only the narrower field of your specialty, but also the broader pastures of general science and the humanities, you cannot fail to add to your success as physicians, your usefulness as citizens and your enjoyment of the better things of life. I know the amount and variety of information you will be supposed to acquire or be forced to acquire during your student days; I know that the dentrites of your cortical cults will be kept quivering from early morn till dewy eve—nay, until midnight or after, in the endeavor to seek out new association paths, but still I hold that you can and should find time, even as Galen did and many another has done, to cultivate both medicine and philosophy, using that word in in its etymological significance. He who can find his happiness in

"A Book of Verses underneath the Bough"

without even the accessories demanded by the Persian philosopher-poet, has mastered the secret of happiness in this life, for he will have learnt to find interest in everything and everywhere.

I would like to dwell on the value, or rather I would say the essentiality, of breadth of knowledge for the "verrey parfight practisour," but there are other lamps to be considered. I shall therefore content myself by quoting to you the words attributed to Dr. Radcliffe in that delightful picture of the London physicians of the eighteenth century, entitled "The Gold-headed Cane," which I trust each one of you may some time read and enjoy. Radcliffe says, "As I have grown older, every year of my life has convinced me more and more of the value of the education of the scholar and the gentleman to the thoroughbred physician."

After the death of Galen evil days fell upon the science of anatomy and it was fated to languish for many centuries. With the decadence of the Roman empire and the irruption into intellectual Europe of the Goths and Vandals from the north and later of the Saracens from the east and south, there came a period

during which the cultivation of the arts and sciences was practically neglected. The reign of Charlemagne forms a bright spot in the history of intellectual development in the dark ages, but the disruption of his empire which followed upon his death and new invasions of barbarians soon brought again days of gloom for the sciences. Then came the martial frenzy of the Crusades, which, though at the time fatal to progress in the arts and sciences, nevertheless brought in their train the revival of learning.

It was not, however, so much the unrest of Europe that acted as a depressant on anatomy as it was the resulting unrest of the East. Europe had never fostered that science, but being under the influence of the intellectual methods of the Greeks had preferred the freedom of speculation to the more restraining practice of observation. It was to the East, as we have seen, that we owe the foundation of anatomy, and it was not until the close of the middle ages that interest in it was clearly manifested in Europe. In the four hundred and fifty years that elapsed between Galen's death and the conquest of Egypt by the Saracens, but two men stand out conspicuously as writers on medicine, Oribasius, the friend and physician of the Emperor Julian the Apostate, and Ætius, who flourished at the Court of Constantinople about the beginning of the sixth century, and both there received a part at least of their medical education at Alexandria. Then came the Saracenic conquest, and it was interesting to note that it was this very people, to whom the unrest of the dark ages was so largely due, who kept alive an interest in the sciences and subsequently were the exponents to the Occident of the works of Galen and Hippocrates. From the tenth to the fourteenth centuries the masters of medicine were Arabian physicians trained in the schools of Bagdad, Herat and Cordova, but while they held anatomy in high esteem as the foundation of the healing art, its practice was forbidden them by their religion and they could but follow the teachings of Galen. No advance followed their supremacy in anatomy, they but kept alive an interest in Galen's teachings.

In the eleventh century, however, there arose in Italy, at the town of Salerno, the first European school of medicine. The Benedictine monks of the near-by monastery of Monte Cassino, founded by St. Benedict himself in 528, had always, in accordance with the rules of their order, cultivated the useful arts and sciences as well as theology, and had therefore practiced medicine. Later Saracen or Moorish physicians, trained in the Moorish college at Cordova, established themselves in the town, and thus the Cross and the Crescent combined in the establishment of the Salernitan school, which became as celebrated in its day as the

Alexandrian school had been in earlier times. But the anatomy that was taught was the anatomy of the Arabians, and this, we have seen, was the anatomy of Galen. That the Salernitans dissected is certain, but it seems probable that the cadavers they studied were those of pigs; one Kopho, a professor of the school toward the close of the eleventh century, wrote a treatise on the anatomy of these animals.

In the thirteenth century rivals of the school of Salerno began to develop and soon its reputation as a seat of learning was eclipsed by the growing renown of the Universities of Bologna, Montpellier and Paris, and at Bologna and Montpellier the dissection of human bodies was practiced in the fourteenth century. Mondino of Bologna wrote a treatise on anatomy in the early part of that century in which he states that he had himself dissected the human body, and Guy de Chauliac of Montpellier in his Surgery written in 1363, describes the order in which his teacher, Bertuccius, was accustomed to proceed in demonstrating the parts of the human body.

This, you will note, was at the beginning of the period known as the Renaissance, when men began to think and observe for themselves. But the renaissance of anatomy was not yet. The supreme authority of Galen which had endured for so many years was not easily overthrown, and men had less confidence in their own observations than in the Galenic traditions. I speak of them as traditions because at this time Galen had come to be more generally known through Arabian commentaries than in the original, and what passed for Galen was frequently Latin translation of an Arabic version of the original Greek. So great was the Arabian influence that in the works of both Mondino and Guy de Chauliac Arabic terms are frequently employed to designate parts of the body, while references to Avicenna, one of the most celebrated of the Arabian physicians, are frequent.

But the relighting of the lamp of observation was a great step towards the renaissance of anatomy, for even although theory and servile imitation continued to hold sway for another two hundred years, yet the leaven was working, observation was becoming both possible and popular and there was needed but a man who could feel sufficient faith in himself to cast aside the shackles of tradition and rely upon the evidence of his own senses.

I have treated thus summarily the history of anatomy throughout the dark ages in order to set before you in the greatest possible prominence the value of another lamp of science, the *lamp of independence.* That was *the* lamp of the Renaissance, and while it was shedding the full brightness of its light in the field of literature during the fourteenth century, the century of Dante, Petrarch, Boccaccio and Chaucer, and in the field of art

toward the end of the fifteenth and the beginning of the sixteenth centuries, the age of Leonardo, Michael Angelo, Titian, Velasquez, Durer and Raphael, it was not until half a century later that it suddenly burst into flame for anatomy. Leonardo da Vinci, it is true, cutting loose the bonds of tradition, observing for himself and thinking for himself, as an anatomist as well as an artist, a sculptor and an engineer, worked out the structure of the human body in such a manner as to evoke from William Hunter the encomium, "I believe Leonardo was by far the very best anatomist of his time." But Leonardo's lamp of independence was lighted for himself alone; the book which he planned and which he outlined with so broad a scope was never written and his drawings illustrative of his dissections remained unpublished until recent years. It was not until 1543 that the renaissance of anatomy was accomplished by the publication of the *De corporis humani fabricâ* of Andreas Vesalius.

Vesalius was born in 1514 at Brussels, and in certain respects his early years remind us of those of Galen. His father was a physician of repute and his grandfather had published commentaries on the works of the Arabian Rhazes and on part of the Aphorisms of Hippocrates. Like Galen, Vesalius was thoroughly grounded in both Latin and Greek and he also mastered Arabic; his zeal for study was boundless, and even in his youth his powers of observation were trained by the dissection of animals. In his fourteenth year he went to Paris and there studied anatomy under Sylvius, devoting himself to his studies with such assiduity and ability that in 1537, that is to say, in his twenty-third year, he was appointed to the professorship of anatomy in the University of Padua.

His teachers, Sylvius included, were fast bound by the Galenic traditions, founded as we have seen upon the anatomy of the lower animals. Vesalius cast these traditions from him, freed himself from the constraining bonds of what good old Sir Thomas Browne has called "adherence to the dictates of authority," and relied upon his own observations. For him the lamp of independence shone brightly and he gave to the world a new era of anatomy. At first his assertions that there were errors in the anatomy of Galen called down upon his head the vituperations of the Galenists; but he had not lighted his lamp in vain nor hidden it under a bushel, it was not to be extinguished. A new anatomy had been created in which were combined the results of a keenness of observation like that of Horophilus, a breadth of knowledge like that of Galen, and an independence of tradition, which was the great contribution anatomy owes to Vesalius.

The value of the lamp of independence can hardly be overestimated. It is the lamp which has lighted the way to all great

achievements in literature, art and science; it is the lamp by which both Shakespeare and Darwin worked. It is the lamp whose light has shown the way to progress and whose absence leads to retrogression. But yet, let me warn you that it is a lamp that must be used with circumspection. A healthy scepticism is one of the chief assets of a scientific thinker. But let us be assured that it is a healthy scepticism, that is to say, a scepticism based on observation ad controlled by knowledge. Without such basis and control scepticism is pernicious; without them the doubter remains for ever in subjection to the everlasting Nay, with them he passes through the centre of indifference and reaches finally the everlasting Yea. Far better is blind adherence to authority than wanton doubt. Vesalius illumined his scepticism by the lamps of observation and knowledge and it became an additional light upon the path of progress.

"Insist on yourself, never imitate," is the advice of Emerson. But see to it that your self-reliance be not founded upon and magnified by ignorance. Vesalius insisted on himself and the renaissance of anatomy resulted; Darwin insisted upon himself and a new philosophy was given to the world. But in both these cases the insistence was based on observation and knowledge; it was not the empty insistence of a fallow mind. The lamp of independence must follow those of observation and knowledge or it may but intensify instead of illuminating the darkness. I have quoted to you the remarks of Dr. Radcliffe bearing on the value of the lamp of knowledge. In connection with the lamp of independence let me cite for your salvation the warning of another great physician, Sir Charles Bell: "Of all the lessons which a young man entering upon our profession needs to learn, this is, perhaps, the first—that he should resist the fascinations of doctrines and hypotheses, till he have won the privilege of such studies by honest labor and a faithful pursuit of real and useful knowledge."

The effect of Vesalius' emancipation of anatomy from the control of tradition led at once to an activity of investigation and an abundance of discoveries, without parallel in the earlier history of anatomy. The achievements of the century which succeeded the death of Vesalius are alone sufficient to stamp his work as the foundation of modern anatomy, for in that period discovery followed fast on discovery, and results were obtained which completely revolutionized the physiological ideas of the day. And two of these results are especially noteworthy as yielding two of the most fundamental conceptions of modern medicine, I mean the circulation of the blood and the absorptive function of the lymphatics.

A partial index of the results obtained in the century in ques-

tion is furnished by our anatomical nomenclature, which still retains the names of several of its discoverers. Thus the name of Fallopius, one of the immediate successors of Vesalius, is well known to every student of anatomy; Eustachius, who died in 1570, in addition to many important discoveries, among which is that of the tube which still bears his name, inaugurated the investigation of the minuter anatomy of organs, showing that their parenchyma, a name first employed by Erisistratus, was not a homogeneous substance as had been supposed, that of the kidneys, for instance, consisting of tubules; Aranzi or Arantius, a pupil of Vesalius, who subsequently became professor of anatomy at Bologna, demonstrated the independence of the maternal and fetal circulations and contributed important facts concerning the structure of the fetal organs; Varolius, also professor of anatomy at Bologna, by his observations upon the brain prepared the way for the future work of Willis; and Vidius, Spigelius and Botalli have all had acknowledgment of their contributions to anatomy from our nomenclature.

But the discoveries of these men, important and suggestive as they were, are overshadowed by that of the circulation of the blood. For Galen the blood simply oscillated to and fro in the vessels, the veins as well as the arteries leading from the heart. Servetus, a contemporary of Vesalius, described the passage of the blood from the right to the left side of the heart through the lungs, his views, however, being still largely tainted by the Galenic physiology, and his views were essentially those recorded in the works of Vesalius and his pupil Columbus. How far these ideas concerning the pulmonary circulation may have contributed to the final discovery of the major circulation may be a matter for discussion, but it is generally admitted that the demonstration by Fabricius, the pupil and successor of Fallopius, of the valves of the veins and their significance was much more important. Harvey, for whom was reserved the honor of the great discovery which he announced in 1628, was a pupil of Fabricius.

As regards the lymphatic system, we have already seen that it was detected by Herophilus, but was entirely overlooked by succeeding writers. In 1622 Aselli, professor of anatomy and surgery at Pavia, rediscovered in a dog the lymphatics of the mesentery and traced them to a group of mesenterial lymph-nodes, and in 1647 Pecquet, while still a student of medicine at Montpellier, traced the same vessels past these nodes to the thoracic duct, whose course up the thorax to its entrance into the subclavian vein he was able to follow. Later the observations of Caspar Bartholin and Rudbeck revealed the existence of other groups of lymphatics and the system became fully recognized, although it awaited the closing years of the eighteenth century

for a full exposition by Mascagni. The great importance of this system from the surgical standpoint has, however, become emphasized in recent years, and it has been one of the tasks of the last decade, admirably fulfilled by Gerota, Poirier, Cunéo, Most, Staler and others, to elucidate systematically the regional anatomy of the lymphatics.

The discoveries recounted above are the most striking results of the century succeeding the death of Vesalius, and if one considers their number and importance in contrast with the sterility of the twelve preceding centuries, one can form a fitting estimate of the value of the lamp of independence as it was used by Vesalius and his successors.

There is yet another lamp to which I would refer were it not that I have already trespassed sufficiently upon your time and patience. It is the *lamp of thoroughness,* and with it I would couple the name of Jacob Heule, whose handbook of systematic anatomy, written half a century ago, is still a model of descriptive anatomy and a book to which the anatomist still turns for information and inspiration. Heule not only worked in the light of the lamps of observation, knowledge and independence, but also employed that of thoroughness, which served to increase manifold the brilliancy of the others. The value of this lamp to all of us in whatever we may be called upon to do needs no comment; in making use of it we are but following the scriptural injunction, "Whatsoever thy hand findeth to do, do it with all thy might." Let me advise you to make thoroughness a habit and to that end practice it continually from the very beginning of your course.

Train yourselves, therefore, to observe, gather knowledge that you may be able correctly to interpret what you observe, cultivate independence of thought, but see that your independence rests upon observation and knowledge or woe will be to you, and, finally, develop the habit of thoroughness. With these four lamps to guide your feet your path will be sure, your goal evident and your success certain.

PRESIDENT FALCONER'S OPENING ADDRESS—UNIVERSITY OF TORONTO.

It gives me great pleasure to welcome you to the work of another session in the University of Toronto. Many of you already know the University well. Others begin your acquaintance this year, as I also do. I earnestly hope that for us all the coming session will prove to be thoroughly satisfactory.

He would be devoid of imagination who could look upon such an assembly as this without being deeply impressed. Probably there is no place in our Dominion where there could be gathered together so large a body of youth with such promise. You have come from good homes; you have been in good schools; you have lived under stable government; you have received as good moral and religious training as any youth anywhere. And now you are bringing this inherited capital that you may learn to invest it to the best advantage. Nor will you require to bury your capital in the earth for lack of occasion to invest, because in our young nation there are opportunities large enough to satisfy the ambitions of the most eager of those whom I address. I welcome you especially because of this very time in our national life, and I rejoice that you have before you such vast possibilities lying ready for exploitation.

I will ask you to consider what the university may give you as you enter upon your career or look forward to its completion. The university can provide you with something which you cannot get anywhere else, and it may be summed up in this—the being imbued with the university spirit. This spirit is unique; it is different from what you knew at school; you will not find it when you go out afterwards into business or professional life. Nearly every university man looks upon the years he spent in college as the most formative period in his life. It was the new era of discovery—a veritable renascence.

I wish to analyze this university spirit into some of its elements. It will not take you long to discover that the university stands for "Freedom." At matriculation you are approaching maturity and are presented with the fateful gift of freedom. You may prove unable to discern the worth of your gift, and may speedily squander it by exchanging it for its base counterfeit—licence. It rests with you to demonstrate whether you are competent to use this gift; whether, now that the refining and restraining influences of home are more or less removed, you will master your new environment, or will yield to "the contagion of the world's slow stain." There are those who think that youth can be drilled into character by moral discipline, and it may be that some will get more from a military school than from the

university. Every year unfortunates succumb to their privileges, but the university must take the risks of freedom in the conviction that under it there will be a greatly overbalancing development of self-directing manhood.

Freedom, however, always involves obligation, and another prevailing conviction of the university man is that there is a reign of law. You learn in your scientific courses to investigate its workings in nature and in history; you discover that its reach is not narrow, nor its defects doubtful. In his recent address, as President of the British Association, Sir David Gill tells us that "accurate measurement and the spectroscope have revealed two majestic processions of stars travelling through space in opposite directions, and these stars of both streams—some of them suns, possibly 100,000 times more luminous than our sun—are alike in design, alike in chemical constitution and alike in process of development." So wide in its sweep is the reign of law. Should you penetrate through the husk of your scientific teaching and assimilate the kernel which it contains, you will get much of the wisdom of life, learning that the sequence of cause and effect is relentless, and that when youths or young nations tamper with law and forget its reign they are courting disaster.

At your entrance into the university you are also ushered into the strong atmosphere of intellectual freedom. Under competent teachers you will attain to this liberty in almost every department of study. Accuracy in thought and expression is an element—and an immensely important element—in intellectual freedom. Much untruth is covered up in phrases and in sentences carelessly written or spoken, which if rightly analyzed would be seen to be dishonest. The study of classical and other languages and literatures enables us to learn what words mean, to criticize our thoughts, to escape from meaningless repetitions of phrases, and to be delivered from slavery to the letter.

You will also enter into the arena of the pholosophical disciplines, and this may seem to some of you—and those probbaly the best students—to issue for a time at least in your intellectual undoing. You will discover that there is nothing too sacred in your religious, social or moral beliefs to be submitted in the class-room to the clear, cold inspection of the severest scrutiny, and at certain stages you may perhaps wonder whether there is any such thing as established truth. You may find yourselves again and again breathing an atmosphere that seems too strong for you, and fear lest you may not survive. I shall not be surprised if for a period of your student life some of you may be "wandering between two worlds—the one dead, the other powerless to be born." And yet these mental processes are essential to intellectual growth and to the mastery of truth.

Intellectual freedom will also come to those who engage in scientific pursuits; for in the halls of science you are taught to search for facts and to observe things for yourselves. Under proper scientific training you gain independent knowledge won for yourselves. Scientific knowledge is based upon an accurate observation of facts. At first sight you may seem to have a comparatively easy task, but the older you grow the clearer it will become to you that facts are elusive. Many a weary hour may be required to get at the facts of a case, but the truth cannot be known until the facts are known. To know just what facts mean is a proof of supreme ability, and the mark of a highly trained mind. To learn to distinguish between opinions and truth is to learn a very great lesson. You will not be so absolutely certain about some things as you were, but you will have received from the university an endowment more precious than gold if you have acquired the habit of penetrating to the fundamental facts of your problem. Any man who faces a large task in life to a great extent faces the unknown. It looms up before him, and his ability to master his future, his capacity for rising in his profession, are based upon his power—first of gauging facts correctly, and then of applying to the facts which he has correctly gauged the underlying principles of the profession which he has been studying in the university. The university should give the student a sense of freedom for the facing of his large problems and duties in a brave and heroic spirit.

There are, of course, dangers attendant upon the process of intellectual awakening. The expanding student is apt to be unduly aggressive in his consciousness of developing strength. He treats weakness or incompetency with scorn; he worships intellect, capacity and manifested power; his tender mercies are not so compassionate as they will be when he discovers that he too is finite. This discovery comes with age. I do not urge you to refrain from the use of intellectual freedom. I should rather urge you to rejoice in it, but also to seek to modify the defects of your virtues by the practice of as much humility as you deem to be consistent with your present dignity; and even when you have gone as far in this direction as your conscience will allow, to throw in as much more modesty as possible.

The next element in the university spirit to which I will refer is "Comradeship." You will form here such friendships as you never formed before and will never form afterwards. It is true that students are individualistic, but they are also gregarious, and ideas rapidly infuse the common student mind. The university is the home of generous enthusiasms which are kindled and fed by rich and worthy friendships. College intimacies are more easily fostered in halls of residence, and partly through the gen-

erosity of our friends we shall be able to provide more adequately in the future for those who prefer this kind of life. But I believe that the great body of Toronto students will continue to live a more or less solitary life in rooms—along with one or only a few companions. In this university both types of student life will doubtless be found to suit the preferences and meet the requirements of various classes. One of our aims, however, must be to create as wide intercourse as possible among the students within the university. Students of retiring and studious disposition are tempted to withdraw themselves from the common life. Some few have a daily beat from their lodgings to the class-rooms and laboratories and back again, the rest of their time being filled in by study. Such men are missing a large part of a university education, forgetting that ability to live with others, capacity for friendship, knowledge of human nature, are immensely important factors of success in life. We face many of our hardest intellectual problems not in the class-room, but among our friends; they compel us to look squarely at issues which we might otherwise shirk. They also confront us with moral decisions. It is one thing to sit alone and deal theoretically with temptations; it is altogether another thing to face them as they confront us concretely, and to live among our fellows a life straight, honorable and pure, instead of merely dreaming about it in our rooms.

Unquestionably the college spirit grows more rapidly in the small college than in the large university where the life is concentrated in faculty units. I was a student in a university where there were 3,600 students, and I remember how the faculties were separated. In Arts the students were younger, but they were more varied in character, because men looking forward to almost every kind of professional activity were found together. The law student dwelt apart high and mighty. The medical man was housed in handsome buildings by himself and held little intercourse with the law man, regarding himself probably as more human if less aristocratic. In those days the engineering students were a feeble folk. But times have changed. I do not believe that this faculty spirit should be diminished; rather would I urge that each student be loyal to his faculty. This, however, is not inconsistent with the development of a larger university spirit in which each student should take pride, and which varsity colors should represent, loyalty to the faculty being completed in a larger loyalty to the university. I hope also that as time goes on some method may be devised of giving better expression to the common university spirit. If there were something like a students' parliament or representative council it would be an immense unifying power in the university, and it might remove

some of the asperities that are apt at times to occur between the different faculties.

This comradeship is also intensified through athletics, which serve to arouse the enthusiasm and satisfy the pride of a very large number of students. I know that I am touching upon a difficult subject. A large section of the community know little else with regard to the university than its record in the world of sport. But I do you the honor of believing that few among you place athletics first and the duties of the class-room second. You know that athletics should be engaged in for recreation, and that they cease to be recreation when they usurp a place as an absorbing interest. Educated men should be able to distinguish their use from their abuse. A student should engage in athletics not only for recreation, but that he may keep in such good bodily condition as will enable him to use all his powers to the best advantage.

While men broken down prematurely because of excessive bodily training are pitiful spectacles, even more so are students of high intellectual distinction who are physical wrecks, having disregarded the plain truth that if the mental strain is unrelieved the strength will be sapped and collapse follow. Athletics should not be left to the few; nor is their function served when a score or so of men do all the play and the great body of students simply stand by as interested and often excited spectators. Too few instead of too many are engaged in the athletic life of the university.

In a university the Greek conception of the athlete should prevail. At their best the Hellenes had a worthy ideal of physical training, for in spite of frequent lapses into fleshliness and occasional brutality the Greek athlete practised as one who was in training for service in the state. He was to do his share in upholding reason and beauty and truth in the conflict with barbarism, and he helped to save much for our western civilization. In Canada to-day we need the strong body and the sound mind along with moral control and buoyancy, that we too may go forth to uphold the university ideals. From the university a standard of clean sport should be shown forth; here above everywhere must be exhibited a true discernment of values; and honor be so supreme that a game won in any other way than by what is square and manly is not only no proof of worth, but is such a disgrace that we shall seek to forget that the game was ever won.

A third distinctive element in the university spirit is "Loyalty." There is indeed a fictitious loyalty which is in its last analysis a form of selfishness; but true loyalty is akin to gratitude for favors received; and assuredly the university should evoke such loyalty. You will occasionally hear a man speak indifferently of his college on the ground that his alma mater was

to him a niggardly benefactress; but as a rule such men are passing an unfavorable judgment upon themselves, for we are all to some extent debtors to our university. There most of us have formed our closest friendships. There also we met professors who revealed to us the meaning of devotion to a high intellectual ideal, men whose consuming passion it was to further their department of knowledge, and in whose presence we were constrained to be modest because they were so far beyond us. Such men are as a rule most generous of their intellectual and spiritual wealth, for knowledge, unlike gold, increases in value as it is communicated to others. The poet sings for the joy of finding harmonious utterance; the good man sacrifices himself for the joy of doing his duty; the scholar proclaims his truth for the joy of announcing his discovery and to quicken others to join with him in his search. Every true teacher knows the satisfaction of teaching. He is eager to be spent in the service of his subject, and cannot fail to render his class debtors to him.

All university men can look back to some great teachers. I remember those who gave me impetus in any course. Certain days and weeks stand out in my memory, when under the guidance of men of outstanding personality and great learning I was pioneered into new worlds. As an old college man looks back over the past and turns to his university with affectionate regard, it is not the material equipment of which he thinks; but in memory he crosses the grounds, enters the college gateway and passes along the cloister to some class-room, where he sees before him in dim outline, which, however, the years will never entirely efface, the features of the greatest teacher he has ever known. Others more famous he may have since met, men it may be of equal or even greater power, but for him that silent figure remains the greatest of all his teachers. A university is great according to the number of such teachers it possesses, and it will be fruitful in loyal students and alumni, as it has enabled them to come within the range of such rich personalities.

During the summer tourists drive round these grounds in multitudes, and their guides proclaim in loud tones as they point to the buildings that this is the University of Toronto. Doubtless the tourists are moved to admiration by the beauty of the buildings and the grounds. But these tourists have not seen the university. A ship tied to the wharf, empty, sailless, and without a crew, arouses little of the admiration that is occasioned by the sight of the vessel in mid-ocean, speeding over the waves with every sail set to the breeze, with rich cargo and a full complement of men. It is the professors and students who really constitute the University of Toronto. Every student should regard himself as an integral part of this University, and remember that he

shares in making or marring its reputation. Among students a careless individualism is often exhibited in forgetfulness of the fact that every deed which passes beyond the boundaries of fun into folly is damaging not only to the man but to the university. Are you industrious? Then the university is productive. Are you honorable? Then the university has a high standard. Are you gentlemen? Then the university becomes a home of true culture. Descent from a noble family is a powerful restraint on the recklessness of an individual member of the house. A worthy past is a partial guarantee of a worthy future. In a university, also, an honorable spirit is transmitted from year to year so that it becomes an atmosphere in which the life that comes to it anew with each session is tempered and fostered by its worthy ideals. If the university, like a larger subliminal self, constantly surrounds you, it will so restrain you that while being true to yourself you will be loyal to your alma mater.

What is the prevailing tone of 'Varsity? Surely honor in all things and the gentlemanly instinct that is the surest remedy against cowardice, brutality or unfair treatment. Be certain of this, that the average man will carry into his profession the standards which he formed for himself in college. I can conceive of no higher function of the university than the production of such a spirit that our graduates in medicine will have a high code of honor; in engineering will be thoroughly trustworthy; in law and politics unselfish and patriotic; in teaching kindly and cultured; in the church true and courageous. In the hands of such men scholarship and research will be safe.

Further, let me remind you that if this academic spirit is to be maintained the finer side of your manhood must assert itself. Should the standard of conduct be low it will not be due to lack of gentlemen in the university to give it the right tone, but it will be because they have allowed things to go by default. And this is a serious factor in our present-day conditions. In the state, in municipal affairs, in co-operative schemes of business, in labor combinations, the better element has too often been unwilling to do its duty and has capitulated to evil doers. The students have a duty to the university. You may make its good name or allow it to be marred. Begin to do your duty here and you will find your duties as citizens in the future all the easier.

Of the three thousand or more students of this university it will be impossible for me to know more than a comparatively small number. This I regret, because in the past my students have been among my teachers. However, I wish you to believe that if at any time you think that I am in a position to be of any special help to you, it will give me pleasure to meet you and to do all that my other duties and my judgment will permit.

THE INTERNATIONAL CONGRESS OF SCHOOL HYGIENE.

BY HELEN MacMURCHY, M.D., TORONTO.

It is a difficult, if not an impossible, task to convey in words any adequate idea of the importance, the magnitude of the success of this interesting gathering—a success that was the fruit of three years' self-denying labor on the part of the greatly-esteemed and beloved President, Sir Lauder Brunton, and his assistants. This band of workers gave not only labor, but brains, enthusiasm and personal devotion to the Congress, and everybody was willing to do anything. Thus the Rt.-Hon. the Earl of Crewe, Lord Resident of the Council, who opened the Congress as His Majesty's representative, also acted as President of Section IX., and Lady Ramsay and her assistants not only presided over the most cordial and graceful hospitality, but sat in the Ladies' Reception Room from morning to night every day of the week, answering inumerable questions, removing insurmountable difficulties, conversing at any moment in another new language, placing themselves absolutely at the service of the delegates. The Official Programme, a book of 50 pages, contained the names of almost all the chief authorities of School Hygiene, and covered a wonderfully wide range of subjects.

The eleven sections, which met daily in the University of London, the Imperial Institute and other buildings, accomplished a vast amount of hard, practical thinking. The visits, arranged in the afternoons to places of educational, historical, literary and general interest, were a great attraction. The special entertainments given by the Marchioness of Londonderry, the Mayor of Westminster, and others, were delightful, and it is but right to mention especially the entertainment of the Ladies' Committee in the Royal Botanic Gardens, where Lady Ramsay, Lady Shirley-Murphy, and Miss Brunton received in the Palm House, and the guests passed from there into a Fairyland—a never-to-be-forgotten dream of beauty. August though it was, and everybody out of town, the officers and others with great hospitality welcomed many of the delegates to the own homes.

The seven books prepared for the delegates were in themselves of great use and value, and in many cases the countries represented went to great expense to present volumes, in English, such as that on schools and school hygiene in Finland—over 100 pages—beautifully executed and illustrated. The weight of opinion, experience and thought, represented by the hundreds of papers presented, is impressive enough, but to those two or three thousand who were privileged to be present there was one thing more impressive, and that was the character of the men and women gathered to hear and discuss these papers. Not only did

Swedes and Swiss, Turks and Russians, Greeks and Portuguese, Spaniards, Italians, French, Germans, Australians, Danes, Egyptians, Persians, Hindus, Mahomedans, Norwegians, Finlanders, Dutch, Bohemians, Bulgarians, Hungarians, Japanese, Americans, Australians, New Zealanders, Afrikanders, Canadians sit and work side by side, but one recognized here an Earl and there a small tradesman, here an archdeacon and there a guardian, or a county councillor, or a J. P., or an education authority, lawyers, physicians, nurses, teachers, government officials, university professors, ambassadors, soldiers, members of parliament, society ladies, authors, English squires, and last but by no means least, the British matron. The serious, dignified, business-like aspect of the gathering was remarkable. A few quite young, a few quite old, but the most of them in the prime of life. The distances these people had come, the duties they must have left, the ideas they took away, are sufficient evidence of the working of the health conscience of the world, and the conviction that in the school must begin the working out of the problems of national health.

Among the definite results of the Congress may be mentioned the Resolutions, one moved by Sir Victor Horsley, That the principles and practice of hygiene should form part of the education of every citizen, and the other, moved by Mrs. Watt Smith, That practical and other ethical instruction in personal and school hygiene should form part of the curriculum of all Teachers' Training Colleges. These were unanimous findings of the Congress.

The deliberations of the Congress and the announcements of the British Government and other Governments have made clear that a change has taken place in the official relations of the medical profession, and preventive medicine is coming to its own. We are now recognized, or about to be recognized, as an integral part of the national educational system. The teacher in future will have a right to the assistance of the school physician, and the educational authorities, both local and central, from the Minister of Education to the rural trustee, will have expert advisers from our profession. This is our right and their right, our responsibility and our opportunity.

In addition, a small permanent council has been named to act for the Congress and manage its affairs. The organization of this great Congress was noteworthy—nothing seemed to have been forgotten, and the comfort which the delegates enjoyed could only have been secured by much hard work on the part of all the officers and their assistants, especially the secretaries. It seemed that one had only to wear the beautiful bronze badge, specially designed for the Congress by Mr. T. W. Cutler, in order to find all doors opening and all difficulties banishing.

Laryngology, Rhinology and Otology

IN CHARGE OF
PERRY G. GOLDSMITH, M.D.
TORONTO.

MISTAKEN OVER-ZEAL.

Several years ago Sir Felix Semon delivered two lectures at the Medical Graduates' College and Polyclinic entitled, "Some Thoughts on the Principles of Local Treatment in Diseases of the Upper Air Passages." These lectures should be read and re-read by every one who does nose and throat work. In all special departments there are those who carry their ideas to extreme ends, and this is found no less in the throat department than in others. The *furore* for operations seems in recent years to have gone a great pace, and the following, taken from Semon's lecture, is strongly to the point: "But whilst thus warmly pleading the cause of local treatment in diseases of the upper air passages, where it is really needed, I have no word of defence for the notion which, I am afraid, is very prevalent nowadays, that the discovery, often enough accidental, of the slightest deviation from the normal—or what the observer may consider as a deviation from the normal—should be immediately pounced upon as a signal for local interference, and should be visited by some operation or other. Not every crest or spur on the septum requires the saw, the chisel, or the trephine, not every little puffiness of the mucous membrane over the turbinated bones the galvano-cautery, or the snare. No immediate radical operation is necessarily indicated when a drop of pus is seen in the middle meatus of the nose, nor has the turbinotome to come into play each time the posterior ends of the lower turbinated bones appear a little fuller or more rounded than they usually are. Not every little bunch of adenoid tissue, by chance discovered in the vault of the pharynx, needs be removed, nor ought every tonsil to be cut which slightly projects beyond the palatal arches. Not every granulation or every visible vein on the posterior wall of the pharynx demand the application of the galvano-cautery, nor must the uvula inevitably be clipped because to the man who considers it his duty to 'do something' it appears to be a little longer than he would like to see it. No long course of astringent applications is peremptorily indicated when the vocal

cords appear slightly pinkish in the case of a professional voice user, and not every singer's nodule demands operative treatment.

"I know well enough that such views are diametrically opposed to that teaching according to which every abnormality should be set right, lest it should ultimately cause mischief of some kind. But whilst fully admitting that prevention is better than cure, I do not hesitate to say that one may go too far, even in the laudable intention to prevent mischief; that life is quite endurable, nay, even enjoyable, though one should be the possessor of a small spur in the nose, or of some granulations in the throat, and that I honestly believe that local tinkering of the kind just described is equally little in the interest of the patient and in the interest of the good name of the profession. Yet this is what I am afraid is going on at present on a large scale, and of which one not only hears on all sides, but actually sees too many examples."

TREATMENT OF CATARRHAL PHARYNGITIS.

The *Revue internationale de médicine et de chirurgie* points out that the following prescriptions are of use in acute attacks of pharyngitis. The patient must gargle gently, slowly and for some time, either with barley water, marshmallow decoction sweetened with honey, or with a salicylic solution:

℞	Sod. Salicyl.		ʒi
	Syr. Rhorados		ʒi
	Decoct. Althaeae	ad	ʒviii

As soon as the inflammation has subsided a little, slightly astringent preparatons, such as the following, may be used:

℞	Sodii Biborat		gr. xlv
	Tinct. Benzoin		ʒiii
	Syr. Mori		ʒiss
	Aq.	ad	ʒviii

After all inflammation has gone the patient will obtain much benefit and relief from the application of

℞	Sodii Biborat		gr. xlv
	Glycerini		ʒi ℥

Acute attacks, however, are, as a rule, incidental to a chronic affection, and this must be taken in hand when the acute affection has passed off. Topical applications of a more energetic nature are required, the most efficient being resorcine, iodine and chloride of zinc.

℞ Sodii Biborat ..... gr. xlv
Resorcine ..... gr. xxx
Glycerini ..... ʒgr.
Aq. Menth. Pip. ..... ad ʒvj

Or

℞ Pot. Iodidi ..... gr. xxx
Iodi ..... gr. v
Menthol ..... gr. iiss
Glycerini ..... ʒi ℳ

The effect of these applications can be increased by using gargles.

℞ Acid Carbolici ..... ʒiii
Resorcine ..... gr. xv
Glycerini ..... ʒi
Aq. Menth. Pip ..... ʒiss
Aq ..... ad. ʒviii ℳ

Chloride of zinc is most useful in the chronic variety (granular sore throat, chronic pharyngeal tonsillitis). The application must be made by a medical man, with a light touch, and only at intervals.

℞ Cocain Hydrochlor ..... gr. iv
Zinci Chloridi ..... gr. xv
Glycerini ..... ʒiss
Aq. Dist. ..... ad. ʒi ℳ

While these applications are all of service so far as local treatment is concerned, there are many cases in which further measures are indicated. Young, anemic girls not infrequently have a granular throat, which rapidly recovers under a course of Blaud's pills. Those who dine, wine and smoke too much are more benefited by correcting these points, and ordering a liver stimulant and a course at golf. The gouty and rheumatic should take colchicin intestinal disinfectants, salicylates and guaiacin. Then again the pharyngitis due to chronic lacumar tonsillitis can only be cured by complete removal of the offending gland. Congestive catarrh, involving the entire mucous membrane of the upper air passages and presenting the clinical appearances seen in chronic rhinitis, pharyngitis and laryngitis, is not infrequently seen in heart disease even before failure of compensation has occurred. Asthmatic and emphysematous patients, whose bronchi are filled with tenaceous secretion which requires severe efforts to remove, suffer from catarrh of the pharynx and larynx. Mouth breathers suffer from a chronic pharyngitis which disappears on removal of the cause. Chronic nasal suppuration, syphilis, infectious diseases, gastric fermentation, bad teeth, alcohol (spirit drinkers), hawkers, etc., are also points to consider in dealing with acute or chronic pharyngitis.

P. G. G.

ABSTRACTS.

Eye Injury from Fire-Cracker—Treatment.—Geo. W. Gracy, of Uhrichsville, Ohio, reports the following case of eye injury from a fire-cracker, with the successful treatment employed: W. G., aged nineteen; occupation, clerk; right eye injured by a cannon fire-cracker; iris torn from its mooring, about one-quarter of its attachment; arterial chamber filled with blood, choroid injured, lids bruised, vision reduced to light perception. Treatment, dionin and bandage. On July 5 anterior chamber was almost clear, conjunctiva still very much swollen, vision slightly improved. On July 6, conjunctiva still swollen, vision, 1-200; July 7, vision, 5-200; July 10, vision, 10-80; July 13, vision, 10-20; media clear, and no detachment. Prior to July 13, it was not possible to get a good view of the fundus. Dionin was used but once in this case; subsequent treatment, atropine and rest, with alteratives internally.—*Correspondence.*

Treatment of Scarlet Fever.—A number of applications have been employed in this disease with variable success. Ichthyol locally has given W. T. Marrs, of Peoria Heights, Ill., gratifying results of late, and henceforth he will depend upon it. He uses a mixture of ichthyol made up with glycerin and water, and applies it to the entire body. No substitute or "just as good" preparation should take the place of ichthyol when we would be sure of results, the writer insists. In this disease every gland and emunctory should be made active. Colomel and salines in appropriate doses are valuable remedies. Potassium citrate is a cooling diuretic. Acidulated drinks are desirable. During the stage when there is the greatest hyperemic condition of the kidneys the child should subsist mainly upon milk, preferably buttermilk. Ventilation should be so arranged as to prevent chilling the patient, and the danger of nephritic trouble is thereby lessened. —*Correspondence.*

Treatment of Morphine Habit with Dionin.—For the cure of the morphine habit, James P. Haines, of Beloit, N.Y., uses dionin, as follows: If the patient uses 3 grn. of morphine per day, substitute for it 1½ grn. morphine with 1½ grn. of dionin, gradually reducing the morphine daily by 1-6 grn., for ten days, and correspondingly increasing the dionin, so that at the end of the period dionin only is being given, 3 grn. continued for three days. The dionin is then reduced, 1-6 grn. less per day, until nothing but water is being given. The writer thinks it just as well to continue treatment for about three months, giving as a tonic 1 grn. of quinine per day, and either veronal or somnos for insomnia. In using dionin and morphine together, the writer states, the effect of the dionin is observed much sooner, but it never increases the effect of the morphine. Another point he makes in favor of dionin is that it does not make the mouth sore, as he has observed codeine and atropine to do.—*Correspondence.*

The Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the first of the month previous to publication.

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Editorials.

PASTEURIZED MILK FOR HAND-RAISED INFANTS.

In many cities, at home and abroad, close attention is paid to the production and care of dairy milk. It is indisputable that sound, well-fed, well-groomed cattle, clean premises, and cleanly methods of dairying, should be obligatory. A milk may, however, be shipped from a dairy in good condition and yet, through exposure to infected air or house flies in the home, may prove a

source of disease to hand-fed infants. In a paper read at the Exeter meeting of the British Medical Association (Section of State Medicine), Dr. Routley, M.H.O., Aldershot, proved this proposition. He showed that the urban district of Aldershot is divided into two parts, military and civil, separated from each other by a well-defined line of demarcation. The population is roughly 15,000 and 19,000, respectively, but, owing to there being a greater number of young married persons in the camp population as compared with that of the town, the number of births in the camp is nearly equal to that of the town. The actual class of population is similar in both cases, the inhabitants of the town belonging mainly to the working classes, from which the great part of the army strength is drawn. The following table shows the infantile deaths from diarrheal diseases for each district and year from 1902 to 1906:

Year	Town	Camp
1902	4	1
1903	7	2
1904	11	0
1905	10	1
1906	30	13
	62	17

Another table shows the whole of the deaths from the same diseases, occurring in children under the age of 5 years, for the same period:

Year	Town	Camp
1902	5	1
1903	8	4
1904	19	2
1905	11	2
1906	33	14
	76	23

The births in the two districts for the five years were in the proportion of four to three, namely, 2,800 in the town and 2,090 in the camp. The original source of the milk supply is common to both districts, that is to say, from neighboring farms. One would not unnaturally expect that the infantile mortality in the two contiguous districts, composed of a population equally careless and equally ignorant of hygiene, would present a close similarity. On the contrary, the infantile mortality from diarrheal diseases shows a marked contrast. With almost the same number

of births, with a history of artificial feeding in the same proportion (namely 85 per cent.) of fatal cases, with the same class of population, the number of infant deaths from diarrheal diseases in 1906 was more than twice as great in the civil as in the military population. Dr. Routley asks in what lies the distinction between the two classes of the popualtion of Aldershot, and how does one account for the difference in the incidence and fatality of epidemic diarrhea. As far as regards the source of the milk, and the intervening period between the time of milking and delivery to the customer, the bad effects of either or both must bear equally on both districts. The distinction must, therefore, be sought in the households, and it unquestionably can be found there. In the military camp cleanliness is compulsory and is generally conspicuous in the rooms of the married quarters. The apartments are comfortable and periodically cleansed; overcrowding is absent; army sanitation is ideal.

On the other hand, the soldier who is married "off" the strength has to support his family on a very small allowance in town, and frequently inhabits a single room, or at most two rooms. Inquiries into the fatal cases which occurred in the town showed, in a very large number of instances, the presence of *marked poverty,* accompanied with *insanitary household conditions.* Uncleanliness and the deliberate dislike of open windows favor the presence of the common house fly in swarms, and point out an easy source of infection of milk. This article of food is commonly fetched in dirty vessels, allowed to stand without cover the whole day in close and dirty rooms, the air and dust of which must be reeking with micro-organisms. The process of milk poisoning is thus self-evident. Dr. Routley thought that the evils of the farm-yard had been exaggerated, and that the real requisite in dairies was more attention to the health of the cattle (tuberculin test, feeding, grooming, stabling, etc.). He thought that farm contamination of milk had little to do with the diarrhea of infants and young children, and that it was in the home that milk is infected with disease-producing organisms. He contended that the comparisons made between the two sections of the population of Aldershot, which were similar in all particulars except in the important point of home hygiene, seemed to show that cleanliness of the home is the most important factor in the health of young children.

Dr. Starkey, Professor of Hygiene, McGill University, Montreal, who discussed Dr. Routley's paper, evidently favored the view that milk is contaminated by micro-organisms about the home. He gave an instance, showing that an insanitary condition of the ground surrounding houses in a certain area of Montreal had been accompanied with epidemic infant diarrhea in hot weather. After the area of polluted soil about these houses had been removed, an immediate drop in the return of cases of diarrhea was noted. The houses and their inmates remained much the same as before, and the milk supply remained of a fairly level character. This evidence goes to prove that contamination of milk in or about the home causes diarrhea in children, particularly during hot weather. The average dairy farmer declines to believe in milk-borne diarrhea, and probably thinks that more infants die of want of milk than of diseases contracted from milk. All the same, urban districts should see to it that the milk supply is pure *when it leaves the farm.* This would call for, among other things, quarterly inspection of dairies by a veterinarian, monthly inspection of dairies as to water supply, feeding, stabling, grooming of cattle, dairying methods, etc.—a costly process. In summer, however, the use of raw milk by hand-fed infants is risky, even if the supply is clean when it leaves the farm. Hence the common resort to the pasteurization and boiling of milk intended for the use of such infants. Neither Dr. Routley nor Dr. Starkey gave any information on that point.

Professor Kenwood, who read a paper on infant mortality and the milk supply in the same section of the British Medical Association, contended, *inter alia,* that the testimony to the evil effects of pasteurized and sterilized milk was trifling. He showed that only ten deaths occurred in London, England, from scurvy among infants under one year of age during the three years, 1903, 1904, 1905; whereas, for every such death, about eight hundred deaths were certified from diarrhea (stated to be due to food), epidemic diarrhea, infantile enteritis and diarrhea not otherwise defined.

Dr. Variot, at the "Goutte de lait," Belleville, France, who has observed 3,000 healthy as well as unhealthy children during many months, has failed to observe infantile scurvy resulting from the use of sterilized milk.

The late Professor Budin, at his "Consultations," established all over France in order to help French mothers in the raising of healthy children, declared that he had not seen a case of infantile scurvy resulting from the use of sterilized milk.

A few facts stand out prominently in respect to a milk supply for hand-raised infants: The difficulty of enforcing common cleanliness in or about the homes of civilians and the spoiling of milk by foul air or house flies in homes, even though the milk may have been clean when delivered to the customer. In view of these facts and the large mortality arising from diarrheal diseases among hand-fed nurslings, particularly in hot weather, together with the London statistics showing that practically there is no evidence that pasteurized milk has caused deaths from infantile scurvy, the feeding of hand-raised infants with pasteurized milk should be recommended in a great many instances, particularly during hot weather. J. J. C.

THE OPENING MEETING OF THE ACADEMY OF MEDICINE, TORONTO.

The opening meeting of the Academy of Medicine, Toronto, (Medical Section) took place in Queen's Park on Tuesday evening, October 8th, when the President, Dr. W. J. Wilson, took the chair at 8.30. The meeting was well attended, those present numbering nearly fifty. The Academy has been recently thoroughly renovated and makes a most cheerful and attractive meeting place for its members.

The programme consisted of a very interesting paper by Dr. J. T. Fotheringham entitled, "When and How to Resume Normal Feeding in Typhoid Convalescence." This paper and discussion we hope to give our readers in our next issue.

Dr. J. S. Hart exhibited two patients to illustrate a paper in which he reported three cases of acute anterior poliomyelitis. They came under Dr. Hart's professional care on three consecutive days, August 18th, 19th and 20th, 1906. The first was very rapid in its progress and the respiratory centres were early affected, the child dying three days after the onset of fever and one day after the first recognized signs of paralysis. Accumula-

tion of mucus in the pharynx with cervical rigidity and retraction of head were the first evidences that the fever was the precursor of an infantile paralysis.

The second and third cases, though seen first on the 19th and 20th, both became ill on the same day. In these cases a marked retention of urine was the first sign of want of muscular tone. There was constipation also. By the third day there was complete paraplegia in one case extending, as nearly as could be determined, to the waist, in the other involving the lower limbs. In both there was definite loss of power in the upper extremities, which was restored by the end of the second week. The worst case—the one with the more extensive involvement—suffered from marked opisthotonos and with dysesthesia, though both complained when touched or moved. At first the paralyzed parts were rather dark in color, early became cold to the touch and atrophied. The reflexes were absent, and when faradism was tried in about two weeks the most severe case showed no response over the affected part, and but slight reaction was found in the other. In none of the cases was there any mental aberration.

The cases were presented and manifested little deformity, the one showing in the left foot slight talipes equinus and the other patient a degree of valgus more marked in one foot than the other. This patient walks awkwardly without aid, the limbs being everted from action of the unbalanced adductors of the thigh, the quadriceps extensor being incapacitated. The other does not show much eversion, from the adductors being involved with the extensors. The result is that he cannot walk, but bears his weight and walks feebly with help. Each has some lordosis, and in one the ligaments of the knee are relaxed.

A fact to be noted is that of the four more or less paralyzed legs, three show no response on percussion of the patellar tendon, while in the other the reflex is exaggerated. The question was raised as to the infection in this disease, and, pseudotyphoid being prevalent at this time, whether there was any causative relation.

The discussions that took place were lively and most instructive, and Dr. Wilson as chairman and Dr. Harley Smith as secretary are to be congratulated upon the business-like manner in which they officiated. We trust, however, that arrangements will be made after this that the meeting will start not later than eight o'clock.

A suggestion was made by Dr. Alex. McPhedran that in arranging the programme for the winter meetings the different evenings be allotted to symposiums on different subjects in medicine. He suggested, and wisely so, that three or four members of the Academy present papers upon a certain subject, one discussing the Causation, another the Symptomatology, and a third the Treatment. By this means a most instructive evening could be spent, so that every one present could feel that by spending an evening at the Academy they would come away after having studied the particular subject thoroughly. We trust that the President will arrange this. Another suggestion was made that a full detailed programme should be mailed to each member at least one week before the meeting opens, so that every one intending to be present might take the opportunity of reading up the subject and thereby be enabled to take part in the discussions and add interest to the meeting. The formation of the Academy of Medicine is a distinct step in advance and its privileges should be taken advantage of by every member of the city profession, so that by regular attendance, as well as by prompt payment of fees, the Executive would receive every possible encouragement.

W. A. Y.

THE LARYNGEAL MIRROR AND THE X-RAY PICTURE AS AIDS IN THE DIAGNOSIS OF ANEURYSM OF THE AORTA.

The diagnosis of aneurysm of the aorta by ordinary clinical methods is beset with difficulty during the patient's lifetime. Oftentimes the existence of this lesion is unsuspected, and may not be discovered at all, unless an autopsy is made. Recently, July 1st, 1907, Dr. Westenhöffer, at a meeting of the Society of Internal Medicine, Berlin, Germany, exhibited an aneurysm of the aorta, which had been discovered at the autopsy of a man whose death had resulted from stenosis of the trachea. The autopsy revealed an aneurysm of the aorta compressing the trachea just above its bifurcation. The aneurysm had burst into the right bronchus; fresh blood filled this bronchus and its ramifications. The bursting of the aneurysm had occurred during the last moments of the deceased, and hemoptysis had not been observed. Examination of the specimen revealed signs of syphilitic aortitis,

and there was also a general hardening of the lymphatic glands of the body. Strange to relate the deceased had been the father of twelve children, all of whom are in the enjoyment of good health.

Laryngologists have better opportunities than general practitioners for making an early diagnosis of aneurysm of the aorta. Thus the discovery of a paralysis of one of the vocal cords puts a laryngolegist on the track of a causative aneurysmal lesion. Radioscopy clears up the suspicion, and hypothesis becomes changed into certainty.

A good article on the diagnosis of aneurysm of the aorta, written by Dr. Garel, Lyons, France, appeared, February, 1907, in *Annales des maladies de l'oreille, du larynx, du nez et du pharynx* (t. xxxiii., pp. 97-107). Having made a great number of X-ray pictures of patients, he thinks that aneurysm of the aorta is commoner than it is generally supposed to be. As is well known, the existence of certain special symptoms in a patient induces the attendant to have an X-ray picture of the patient's heart taken, and Dr. Garel gives a comprehensive analysis of the suspicious symptoms, which point to the existence of aneurysm of the aorta. An aneurysm may be traced from a laryngoplegia, a paralysis of one or more muscles of the larynx. There are different forms of paralysis of the larynx. Thus Savill says, in "A System of Clinical Medicine," Vol. I., p. 247: "They may arise from organic or functional conditions, but each is so characteristic that it can be readily identified. Thus hysterical paralysis is always double and very nearly always due to adductor paralysis. Abductor paralysis is generally—and if unilateral, always—organic in origin. If the left vocal cord cannot be abducted, it is almost certainly due to pressure on the left recurrent laryngeal nerve, and this, in nine cases out of ten, is due to aneurysm of the aorta." The patient consults because his voice has become low-pitched and hoarse, and the condition has come on suddenly. According to Dr. Garel there is a sort of apoplexy of a vocal cord. Having recognized a laryngoplegia, the laryngologist seeks for its cause in some intra-thoracic or extra-thoracic lesion. If caused by an aneurysm of the aorta the laryngologist observes in the larynx tremulous movements, which are synchronous with the heart beats, appreciable in the larynx at rest in the inspiratory

position, and particularly at the edge of the epiglottis. When examined in Kilian's position the trachea may be observed to beat throughout its entire length. An X-ray examination of the aorta confirms the diagnosis. Another variety of aneurysm of the aorta is revealed by a cough, which is due to compression. The cough —hoarse, brassy, deep and sonorous—is often the first diagnostic sign of aortic ectasia. One advantage in connection with this symptom is that the clinician's attention is not withdrawn from the mediastinum or the lower part of the patient's neck. If this symptom coincides with a laryngoplegia it shows that the latter condition depends on an intra-thoracic cause. The cough results from a narrowing of some portion of the trachea or one of the bronchial tubes. If the patient be a child, tracheo-bronchial adenopathy might be the etiological factor; but if such a cough should supervene, for the first time, in an adult, the attendant should have his suspicions aroused as to the presence of a lesion in the mediastinum, and particularly an aneurysm of the aorta.

Aneurysm of the aorta may also be revealed by dysphagia, which depends on the fact that the tumor, instead of exerting pressure on the recurrent laryngeal nerve, or the bronchi, presses on a part of the gullet. If difficulty in swallowing be the only symptom complained of by a patient, a physician should not conclude that the dysphagia depends on an essential disease of the gullet, or a cancer of that region, and, in particular, he should be careful not to practice catheterism of the patient's esophagus, for, under the mask of dysphagia, aneurysm of the aorta may be concealed.

Another form of aneurysm of the aorta is revealed by dyspnea, respiratory croaking (stridor) and tracheal tugging. The diagnosis may, in this kind of case, waver between descending goitre, tracheal syphilis, and aneurysm of the arch of the aorta. An X-ray picture will settle the question. These symptoms reveal a rather advanced form of the disease.

Other forms of aneurysm of the arch of the aorta are: (1) The pseudo-neuralgic type, described by Huchard, with radiating pains, attacks of angina pectoris—the pains being modified by change of position; (2) the pulmonary type; (3) the gastric type, described by Destol.

In all the different forms of aneurysm of the arch of the

aorta, according to Dr. Garel, auscultation of the heart gives only complemental information, and, in some cases, none at all. In suspected cases of aneurysm, therefore, the physician who is a general practitioner should consult with the laryngologist and should likewise secure an X-ray picture of the patient's aorta.

J. J. C.

EDITORIAL NOTES

The Opinions of French Dentists on the Treatment of Pyorrhea Alveolaris Agree with an Opinion Expressed in Canada. —At the First Congress of Stomatology, held at Paris, August 1-5, pyorrhea alveolaris was discussed, among other subjects of dental interest. The general impression gathered from the opinions expressed by several speakers was that an important effort had been made, and considerable progress accomplished, in the treatment of this disease. Although an absolute cure, a *restitutio ad integrum,* still remains an unrealized ideal, in many cases a clinical cure, an almost entire arrest of the morbid process, has been effected. The clinical cure may be made lasting by means of a special and rigorously observed hygiene of the buccal cavity, if a timely medical treatment of the patient has modified the morbid tissues of his body (*terrain morbide*). These opinions by leading French dentists as to the curability of pyorrhea alveolaris resemble, in the main points, the conclusions expressed by Andrew J. McDonagh, D.D.S., Toronto, in a paper read at the Toronto Western Hospital Clinic (see *The Canada Lancet,* September, p. 37): "Can pyorrhea be cured, and how? If taken in time, most assuredly it can be cured; and, if the disease has progressed to any extent, local treatment, consisting of proper curettage and medication, being always careful of asepsis, is absolutely necessary. Nevertheless, in the majority of cases, as pyorrhea is so often the indication or the cause of systemic trouble, it is wise for the physician and the dental surgeon to work together for the best interests of the patient." From the French and Canadian data quoted above, one may conclude that if the constitutional vice in the patient be treated with proper medication, diet, hygiene, etc., operation on the pus cavities in the gums and subsequent attention to buccal asepsis will effect a cure. To the dental surgeon the more important part of the work

of saving the threatened teeth belongs, and to the thoroughness with which his work is done should the victory be credited. To the co-operating physician may be accorded an interest in elucidating the somewhat obscure etiology of Riggs' disease, with recommendations as to diet, personal hygiene and, in some cases, special medication.

A Solution of Tartaric Acid Destroys Typhoid Bacilli on Raw Vegetables, Oysters, Etc.—Dr. Whitman, of the laboratory of the Department of Health, Chicago, advises the following method of destroying typhoid bacilli on raw vegetables, fruits, oysters and clams. Recent experiments conducted in the laboratory have demonstrated that typhoid bacilli, which may be found on fruit or vegetables which are to be eaten raw, can be killed by immersing these articles of food in a 5 per cent. solution of tartaric acid for half an hour and then removing the acid by rinsing in clean water. Such a solution may be prepared by dissolving one tablespoonful of tartaric acid in a pint of water. It will kill all the typhoid bacilli that may be on celery, lettuce, radishes, or other vegetables and fruit, as well as on oysters or clams that are to be eaten raw.

Bulletin No. 135, Spirituous Liquors.—Bulletin No. 135, Spirituous Liquors, from the laboratory of the Internal Revenue Department, Ottawa, Canada, shows that the whiskey sold in Alberta and Saskatchewan is not adulterated. The samples which form the subject of this report were obtained at public bars, etc., and may, therefore, be taken to represent the average whiskey of the provinces in which they were sold. The chief analyst, Mr. A. McGill, says: "It is gratifying to find that no drugs nor poisonous additions of any kind have been found in these liquors. The absence of methyl alcohol has been proved in every instance." The report further says: "Canada has no generally accepted or legally established spirit strength for alcoholic liquors. The British Foods Act fixes 75 per cent. proof as the limit of reduction by water. On the basis of such a standard the whiskey samples reported may be classified as follows:

	Saskatchewan	Alberta
Samples within 2 degrees of 75 per cent. proof....	4	30
Samples below 75 per cent. proof.....	12	5
Samples above 75 per cent. proof.....	5	8
Total examined	21	43

Percentage of the number examined, which were found equal to, or above, 75 per cent. proof strength: In Saskatchewan, 43 per cent; in Alberta, 88 per cent."

The Reason of the Disappearance of Malaria from Strassburg, Germany.—Formerly in Strassburgh, Germany, and the vicinity, malarial fevers used to cause a good deal of sickness, amounting to 73 per cent. of all cases of internal disease in the period between 1825 and 1828. Since that period, from 1859 to 1862, malarial diseases fell steadily to a mean of 39 per cent.; from 1884 to 1899, to 0.24 per cent.; to-day malarial diseases are only exceptionally met with in Strassburg. The almost complete disappearance of malarial fevers from that city seems to have been brought about by numerous and extensive drainage works, by the straightening and diking of the Rhine, and by the construction of a canal between the Ill, a tributary of the Rhine, and the Rhine, which provides a sure source for the discharge of the upper waters of the affluent into the river. These different works have, in part at least, put a stop to the flooding of the land bordering on these rivers, have provided channels for stagnant water and drained the swamps which, up to quite recent times, used to be common in the neighborhood. However, these changes in the soil about Strassburg have not been accompanied by the disappearance of mosquitoes, and mosquitoes among which the anopheles variety is noted, are quite common in Strassburg. Dr. Goldschmidt, who writes a paper on this subject which appears in the *Revue d'Hygiene*, concludes that (1) malaria may disappear from a region in which it has raged for a long period, although the anopheles continue to be present; (2) in spite of the presence of the two factors recognized as suitable, if not indispensable, for the dissemination of malarial fevers, the latter may not appear; (3) by the simple drainage and sanitation of the soil, a population may be protected from malaria without making war on the mosquitoes or providing for the destruction of their larvæ. These facts, he says, do not plead in favor of the origin of malarial diseases from the anopheles, but, on the contrary, seem to show that they may arise from a cause quite different to their introduction by the anopheles. In fact, they show that malarial diseases may be transmitted in different ways, instead of in one way.

The Use of Rubber Gloves by Physicians and Surgeons.—A good many surgeons use rubber gloves when operating, especially in septic cases or when examining septic parts of the body. While protecting himself from infection, the surgeon who uses rubber gloves does not expose the patient to infection derivable from the naked hands of the operator. The reason is obvious: Rubber gloves can be sterilized by heat so great as to be inapplicable to the naked hands. Obstetricians frequently have occasion to use rubber gloves in their practice. In certain cases the use of rubber gloves is indispensable to the physician. For instance, in exploring septic parts of the body, or regions from which contagion may be contracted (digital examinations of the rectum or vagina, syphilitic or diphtheritic ulcerations, smallpox), and especially when making an autopsy, rubber gloves give the wearer the best protection against filth or inoculation with disease. Country doctors, who practice surgery, midwifery and medicine, should use rubber gloves. A country doctor may have to attend a case of labor one hour after he has opened an abscess, or he may have to make an incision for the relief of a strangulated hernia, a few minutes after having examined a woman suffering from puerperal infection.

The Opthalmic Reaction to Tuberculin.—In a paper read before the Academy of Sciences, Paris, June 17th, 1907, published in *La Presse Médicale,* July 13th, 1907, Dr. Calmette, Lille, described a method of diagnosing tuberculosis which was based on a reaction of the conjunctiva to a strong solution of tuberculin. If one drop of a solution of tuberculin, 1-100, be dropped into the eye of a tubercular person, the eye afterwards becomes red, particularly at the inner portion. The subsequent congestion of the eye, variable in extent and intensity, lasts two or three days, is not accompanied with a general reaction, and, after disappearing, leaves no trace behind. If the individual experimented on is not tubercular, no change whatever is observed in the eye. This method of diagnosis, which has been called "the ophthalmic reaction to tuberculin," has been tried by a good many clinicians in France. A good article on the subject from the pen of Dr. J. Comby, one of the physicians of the Hôpital des Enfants Malades, Paris, appears in *La Presse Médicale,* August 10, 1907, and we give herewith a few of the details of his

method. Dr. Comby has found that the solution used by Dr. Calmette produces a strong reaction in some cases, and prefers a solution of tuberculin of half that strength, viz., 1-200. He has applied the test to 132 children, and finds of that number 62 reacted and 70 did not react. Four children of the positive group died, and their autopsies confirmed the diagnosis of tuberculosis. Six children of the negative group also died, and their autopsies showed that they were quite free from tuberculosis. Dr. Comby thinks the ophthalmic reaction is a safe and trustworthy method of diagnosing tuberculosis in children. If applied in time, suitable treatment could be adopted in the case of those who are found to be affected with tuberculosis. Professor Grasset reports his results with this new method in *Prov. Med.*, 1907, No. 28, p. 357. He tried it in 31 cases, tubercular and non-tubercular; a positive reaction ensued in 17, a negative reaction in one case—a woman, who for several months had suffered from bilateral pleuro-bronchitis, Koch's bacilli not being found in the expectoration. Of 15 cases in which there were no clinical signs of tuberculosis, the ophthalmic reaction proved negative in 14, positive in 1 case—an epileptic who had seemed quite free from signs of tuberculosis. Of 8 cases in which the clinical diagnosis of tuberculosis was doubtful, the ophthalmic reaction was positive in 5 cases, negative in 3. In a subsequent number of this journal we hope to be able to give information as to the application of the ophthalmic reaction in Canada, and the results. J. J. C.

DEATH OF DR. H. E. BUCHAN, OF LONDON INSANE ASYLUM.

News was received on October 16th of the death in Owen Sound of Dr. Humphrey Buchan, assistant medical health superintendent at the London Insane Asylum. The cause of death was the result of a paralytic stroke.

Deceased, who was born in Paris, Ont., in 1841, was second son of the late David Buchan, for many years bursar of Upper Canada College. He was educated at Upper Canada College and Toronto University, taking his degree as M.D. in 1865. For several years Dr. Buchan was one of the medical officers of the Provincial Lunatic Asylum, Toronto. In January, 1893, he was removed to the Kingston Asylum, and about five years later became assistant superintendent at the London Asylum. He has left a widow, one son and several daughters, all of whom are grown-up. He was a brother of Col. Lawrence Buchan, and a brother-in-law of Chancellor Sir John Boyd.

PERSONALS.

Dr. J. D. Thorburn, of Toronto, has been stricken with typhoid fever. Fortunately the attack is a mild one.

Dr. Newbold Jones begs to announce to the profession that he has opened an office at 42 Prince Arthur Avenue, and will confine his attention to ophthalmic and aural practice.

Dr. Harry Morell has relinquished the business management of the *Western Canada Medical Journal,* which has been taken over by Mr. Reginal Phillips. The editorial department remains as before in the hands of Dr. G. O. Hughes, Winnipeg.

Dr. Charles R. Dickson, after attending the meetings of the Canadian Medical Association in Montreal, went on to Boston and took part in the meetings of the American Electro-Therapeutic Association, and was re-elected for three years a member of the Executive Council of that body. A couple of days were spent in New York and a week with a house party at "Cedar Crest," Davenport Neck, New Rochelle, N.Y., the handsome new summer residence of Dr. and Mrs. Emil Heuel, of New York, situated on the most beautiful part of Long Island Sound.

Dr. J. H. Elliott, up till recently Medical Superintendent at Gravenhurst Sanatorium, has moved to Toronto and taken up house at 611 Spadina Avenue. Dr. Elliott will devote his time largely to diseases of the chest. We are pleased to announce to the profession that Dr. Elliott has consented to identify himself with the editorial staff of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY, and his name appears, commencing with this issue, under our Department of Medicine. We feel that our readers may look forward with confidence to "hearing from" Dr. Elliott from time to time, his contributions to the medical press always being worthy of study.

News of the Month.

"THE NEW HOMEWOOD," GUELPH.

Nature has designed an ideal situation for the Homewood Sanitarium at Guelph. The lofty bank sweeps round in long, easy curves, showing the ancient course of the stream, now the quiet Speed, resting and hiding under its fringed bank in the distance. Along this steep descent the touches of the landscape gardener are so light and delicate that art blends imperceptibly with nature, and the smooth, green terraces are lost in the natural shrubbery that crowds about the ancient and gigantic pines, maples, elms and beeches. The level flat below has been transformed into a bowling green, and cricket crease, with a cornfield and vegetable garden separated by an irregular belt of natural woodland. Thus the lower plane affords scope for work and play, the two most potent regenerative influences. A grove of natural woodland, extending down the hill and across the lower level, sweeps along the bank of the river, preserving in its recesses the floral treasures of the virgin forest, and the tall trees rise with towering energy to struggle for the revivifying sunlight and air.

These stately sentinels, from sombre pine to spreading beech and maple, are survivors of those very forests which, centuries ago, sheltered the Huron Indian and the fiercer Iroquois. Here, too, are companion trees to those "Gothic aisles of overarching elm," which John Galt, the novelist, the founder of the town, described in his memoirs of sixty years ago.

Along the borders of the irregular, wooded stretches, the aster and golden rod are bearing their part in the natural decoration of the season, but in the deeper shades there are abundant proofs of the floral richness of spring. The feathery sprays of Solomon's seal bear rows of large blue berries. The mitered, but faded, leaf of the blood-root is ready to fall. The baneberry displays its rich waxen spike of coral and ivory. The twin leaves of the wind ginger are strong and vigorous, and the hepaticas are prepared to survive the coming frosts. It is easy to picture the seductive scene when the violets are in flower, and all offerings of spring hold out a restful invitation. This is truly an ideal spot for the man or woman whose nervous system has proved unequal to the exacting strains of modern life.

Philanthropic enterprise has taken full advantage of nature's design, and the three handsome buildings that surround the curving hill, modern and perfect in design and equipment, contain every possible provision for the comfort and care of sufferers from mental and nervous diseases, and all appliances for the recognized methods of medical and surgical treatment. Gymnasiums, billiard rooms, music rooms, a bowling alley, card tables and a well-selected library are among the means of indoor recreation. In the open air there is a healthful round of sports and exercises, according to the tastes and inclinations of the patients. These include walking, driving, bowling, cricket, tennis, quoits and croquet, with skating, coasting and sleighing in the winter. Some find interest in gardening and cultivation of flowers. In such surroundings, with good, wholesome food, healthy amusements, cheerful conditions, and all the privacy desired, free from any suggestion of dulness or monotony, regular habits and perfect immunity from worry or annoyance, the conditions are most favorable for restoring shattered nerves and developing health and strength of body as well as of mind.

"The Manor," the first erected of the three buildings, contains the administration department, and has two sections devoted to habit cases. Victims of alcohol, morphine, cocaine or other drugs are given the care, attention and treatment their respective cases require. There is also a home for incurable mental cases.

"The Colonial," recently built, and up-to-date in every particular, with broad, spacious verandahs, magnificent corridors, large sitting rooms, and well-ventilated bedrooms, is not surpassed on the continent for beauty of design or arrangement for the observation and care of acute mental and nervous cases.

"The Vista" is a small, modern building, well-designed and sanitary in every particular, for the care and comfort of any patient for whom temporary isolation is essential to recovery.

These buildings are of Guelph lime-stone from the adjacent quarries, are designed by experts in sanitarium architecture, and present a magnificent appearance from the wooded bank of the Speed, which borders the grounds to the south. Equipped with the best modern appliances in heating, lighting and ventilation, they show the development of an institution established in 1883, and enlarged to keep pace with the demand for its accommodation and treatment. The buildings just completed and the equipment installed have entailed an outlay of $150,000. The equipment includes, in addition to the modern surgical medical appliances, a suite of rooms containing a fully-equipped apparatus for hydrotherapy according to the Baruch method, and the latest appliances for electrical and massage treatment.

The staff consists of the Medical Superintendent, Dr. A. T.

Hobbs, who, with his seventeen years' experience in the treatment of mental cases, is well qualified to conduct the management of the institution. Besides the Superintendent, there are two resident physicians, who are always on hand to give the patients the benefit of their advice and supervision, and a corps of well-trained nurses experienced in the care and handling of mental and nervous cases. Large and modern kitchens are superintended by a matron who is a graduate of the Macdonald Institute of Guelph. The entire staff, numbering between fifty and sixty, is well organized and efficient. The names of Mr. J. W. Langmuir, the President, and Hon. Robert Jaffray, Vice-President, attest the standing of the institution and the character of its management.

Guelph, a busy and prosperous city, in a splendid agricultural district, is well chosen for such an institution. On the main line of the Grand Trunk Railway, forty miles from Toronto, sixty from Niagara Falls, eighty from Buffalo, one hundred and fifty from Detroit, and only ten hours from Montreal, it is readily accessible by those who suffer through the strenuous life of the modern city. It is in a community of well-to-do people, with an atmosphere of thrift and contentment. Aside from the sanitarium feature of "Homewood," the place itself, just beyond the noise of the busy city, is an ideal spot for resting one's tired nerves back to health and strength.

VARSITY'S NEW SCIENCE HOME.

The splendid new physics building which has been built on the university grounds, under the new regime was on Sept. 27th formally declared opened by the Lieutenant-Governor, Sir Wm. Mortimer Clark, in Convocation Hall, before a large and representative assemblage of Toronto's professional and social classes. Dr. Falconer presided, and amongst those seated on the platform were: Premier Whitney, Hon. Dr. Pyne, Hon. Col. Matheson, Sir Wm. R. Meredith, Chief Justice Moss, Dr. Pritchett, and G. R. R. Cockburn. Lady Clark and Miss Clark were present.

Dr. Falconer introduced Dr. Loudon, the ex-president of the University, who prefaced his detailed sketch of the steps which had been taken and of the difficulties which had been overcome in founding the department of physics in the University and of bringing it to its present pitch of prosperity by publicly offering to his successor, Dr. Falconer, his hearty congratulations upon his appointment. He had been the day previous, he continued, highly gratified in hearing Dr. Falconer's conception of the place and function of the university in the state, and also by the

unanimity with which Dr. Falconer's appointment had been approved by the other universities represented, by the faculties, by the alumni, and by the friends of the institution.

He explained that the establishment of the physical laboratory had been the outcome of long and acrimonious discussion, and from its modest beginnings in 1858 down to its present magnificent proportions, they had been compelled to surmount many obstacles. About 1870 the claims of technical education were brought before the legislature and steps were then taken to establish an agricultural as well as a technical college. Strong representations were, however, made against either institution having any connection with the University, and at that time and for years afterwards their students of science did not enjoy the privileges and advantages of practical instruction in the laboratory. The first equipment for the physical laboratory was provided in 1878. And the disastrous fire of 1890 had in many ways proved to be a blessing in disguise, as it led to expansion.

In the early days the volume of work in the laboratory was very small, compared with what it had since become, and in 1878 the strength of the staff consisted of one-half of a professor. (Laughter.) This strength had now been increased about tenfold. In recent years the rooms had become so congested and so supersaturated that it was decided to inaugurate a public movement in order to secure a new laboratory. Their appeal to the government of the day for this improvement fell on deaf ears, and in these circumstances they turned to the Alumni Association. This appeal was not made in vain, and a new laboratory was provided. It was fitting in this connection to acknowledge the royal support and valuable services rendered the University by the Alumni Association, as well as by the authorities of Victoria and Trinity Colleges, and by the Royal College of Dental Surgeons.

But eventually and now happier days had dawned, and most important changes had been made in the equipment of this department, improvements which had only been rendered possible through the recent improvement in the finances of the University.

Her ship had at last come home, and her golden age was just begun. The phrase, scientific equipment, now possessed a new and extended meaning, and many labor-saving devices now practically abolished former difficulties connected with experimental work. It was at the present time only necessary to touch a button and the thing was done.

He repeated for their comfort and consolation in the future what had been said to him in their early days, so full of difficulty. Asked by an eminent scientific man abroad how the new laboratory was progressing he had told this gentleman that their efforts

in respect to it had brought nothing but ill-will. "Then," replied this gentleman, "you are getting on." (Applause.)

In regard to the department of physics under its new head he expressed the hope that after a long and fitful fever it had entered upon a period of well-earned repose, during which it would devote itself in peace to its great work. That the students, learning to use their hands as well as their heads, would imbibe the true scientific spirit. That this department would be the home of research, and that its staff would unite with the other departments in an organized band, in order that the country might realize, as it had not yet done, that the true object of the university was to add to the sum of human knowledge, whether in the domain of arts and letters, or in the world of science. (Applause.)

Prof. McLennan warmly commended the rapidity shown in the erection of the new building, which enabled them to begin their professional work in it next week, and expressed his hearty acknowledgments to those who had forwarded the work. The building was graceful and well-balanced in design, and a fitting complement to convocation hall. Its foundation was laid in concrete, and the first story was built of sandstone, while the remainder was constructed of brick with Roman stone facings and finishings. The floors were laid with concrete and covered with tile. They possessed practically a fire-proof building, or, perhaps, it would be better described as a slow-burning building. A fire must pass through at least nine inches of brick, and then through ten inches of solid wood before it could reach the next room. Hence it was virtually a fireproof building. Their lecture-rooms would be quite distinct from those devoted to laboratory instruction. The lecture-rooms were situated in the front of the building, the laboratories in the rear. At this stage, the plans of the building, showing its different floors, were exhibited upon a screen.

The professor explained that the large amphitheatre on the ground floor would accommodate 550 persons, although their student requirements did not exceed 250.

This had been provided in order that it might serve as a general university-room, as well as a laboratory. The building was furnished throughout with the most modern appliances, with which the most delicate experiments could be made. On the first floor the library was placed, and every room on the second floor was supplied with electricity at 110 volts.

The keynote of the entire laboratory was labor-saving devices, which were to be found everywhere and at all points throughout the building.

All the physical energy was located in the power-house, outside of the physical laboratory, and the building would be heated

by exhaust steam. It was, indeed, a magnificent building in all its appointments, and he earnestly hoped that advantage would be taken of it to the full. He also desired that these splendid facilities for the advancement of knowledge would be freely thrown open to all; that the building would be used in the evenings as well as in the day-time, in the summer as well as in the winter months. (Applause.) And he would be very glad to throw open its doors to anyone, no matter whence he or she came, who wished to carry out or to make any scientific experiments. (Applause.) Owing to the liberality of W. T. White, who had always assisted him in every possible way, the portraits of distinguished physicists would adorn the walls, and a few of these portraits were already in place. (Applause.)

Dr. Falconer observed that the University now possessed one of the finest physics buildings to be found upon this or upon any other continent, and warmly congratulated Dr. Loudon and Dr. McLennan upon the results of their labors and upon the work which they had accomplished.

Dr. Pritchett, of New York, declared that this was one of the great universities of the world, while it possessed one of the great laboratories of the world. And there, no doubt, existed in it a spirit of truth and of hearty, determined work, which would render these walls full of life. He sincerely congratulated the president upon such a position, and particulary upon the addition of this great laboratory to their teaching resources, a striking contrast, indeed, with the state of things a generation ago, when neither a laboratory of physics nor the teaching of applied science existed in this university.

In one man's life they had progressed so far that this age had come to be called distinctly the scientific age, which was a matter of tremendous importance. What did this great change mean? And what were the results of half a century of scientific progress and of scientific evolution?

The true mission of the university was not to increase wealth and utilitarian ends. It should be the centre of spiritual and of intellectual power, and it would thus serve most directly those material ends which eventually would most assuredly be benefited. (Applause.)

He then proceeded to discuss the results of this half a century of scientific work, in which field the Englishman, Charles Darwin, and the Frenchman, Louis Pasteur, had been pre-eminent, and declared that men had applied the knowledge thus obtained to the solution of the practical problems of life. Indeed, the great feature of science in this last half-century had lain in the enormous number of the practical applications of science, and all the possible combinations of the elements had at last come within the

power of the chemist. In point of fact, in fifty years the progress of science had profoundly affected the philosophy of life, as well as the religious faith of civilized man.

No man could stand in intimate relation to these things with which the chemist and the physicist dealt and treat the great problems which they must consider without at the same time having his mind drawn to those great truths with which our race had wrought from the beginning of history to this day. In all this course of scientific evolution and progress, it was natural and inevitable that some confusion should be created in men's views on religious life.

Tradition.

The stress of that spirit of investigation had passed by, but its effect had been enormous. And while the result of this progress had swept away much of that which had to do with tradition, it had left true religion as clear and as strong and as influential as it ever was in any day or at any time. (Applause.)

The central figure of that religion stood out to-day all the clearer because of the very fact that a certain veil of tradition and of legend which had obscured it in the past had been removed. Men of science to-day stood not merely for those things which were material, but also for those things which were spiritual and eternal. (Applause.)

Prof. Cox, of McGill University, said that he had no criticism to offer upon this building and its appliances, as it must rank second to none upon this continent. In it beauty and gracefulness were combined, while in point of proportion and in choice of materials it was a complete success. In conclusion, he affirmed that Canada needed the best men in every field of human thought and activity, and added that it was poor policy to be satisfied with the second best merely because that second best was home-made. (Applause.)

Dr. Hoskin then introduced the Lieutenant-Governor, Sir William Mortimer Clark, who said he felt it a very great honor to have his name in any way connected with this great University. He called it a great university advisedly, because the number of students attending its classes was greater than the number in attendance at any university in the British Empire, with but one exception, the University of Edinburgh. And if the same progress was made in the next couple of years that had been accomplished in the past, this difference would also disappear. (Applause.) He felt much sympathy with the many difficulties with which Dr. Loudon had had to contend.

The late president, to use a vulgar phrase, had never had a chance at all. (Applause.) He congratulated both Dr. Loudon and Dr. McLennan very highly upon what they had accomplished,

and was confident that under Dr. McLennan the department of physics would progress in the future as it had progressed in the past. The study of physics was to his mind exceedingly attractive. It opened up vast vistas of truth.

A large number of the manufacturers of the Dominion were at present in the city, and he would like to see them take a deep and lively interest in Canada's physical laboratories, for in the great field of commerce we had lost heavily in consequence of the lack of technical education among the young men interested in our manufacturing industries. They all knew how fast Germany had forged ahead owing to the great attention which was given in that country to technical education, and he hoped to see a wider, a keener, and a much warmer interest among our people in the study of physics, which would, beyond question, be to the great advantage of the whole community. He had great pleasure in declaring the new physics building open.

Dr. and Mrs. Falconer then held a reception in the new building, which was thrown open to general inspection.

Refreshments were served and an orchestra was in attendance.

VICHY.

A visit to Vichy, which is possibly the best-known of all the health resorts of France, was so timed as to enable us to be present when the official season opened on the 15th of May. To Dr. Felix Fau, a consulting physician, and Mr. G. Seneret, one of the directors of the State-owned springs, we are indebted for many courtesies and the opportunity of making personal investigations regarding the various springs and the uses to which these renowned gaseous alkaline waters are put in the treatment and alleviation of many pathological conditions. The members of our profession there whom we met were kindly and friendly, exhibiting high scientific attainments and a charming tolerance of the rather indifferent brand of French language imported from Toronto.

Vichy is situated in the department of the Allier, in a beautiful valley of the river of that name, about six hours by train south from Paris, and thirty-two miles south-east of Moulins. It was once a place of strength, and has been celebrated for its "cures" since Roman times. In 1853 the Government gave the right of exploiting the springs to a company. In 1862 there were 17,401 registered visitors, and the number has increased rapidly, last year mounting up to 98,000.

There is an excellent medical library open not only to the resident, but also to visiting physicians, where are to be found

numerous works on climatology, health resorts and mineral springs, as well as the current medical literature.

At the present day the action of the waters is being studied scientifically, with, it is said, increasing benefit to the sick who visit this spa. The doctors recommend patients to begin with reserve, drinking one glass in the morning and another in the afternoon, then increasing gradually according to the case, from four to five glasses, but rarely more than a pint a day—although in earlier times the ordinary dose seems to have been twelve glasses.

The chief springs in the possession of the State are nine in number. "Celestins" owes its name to the convent and juts out from a pile of rocks which served as the foundation of the old Vichy and gives birth also to the spring "L'Hospital." Its output is about 50,000 pints in twenty-four hours. The water contains considerable carbonic acid, with bicarbonate of sodium, potassium, magnesium and strontium; it is fresh and sparkling, and recommended for gout, rheumatism and diabetes, as well as other affections. The name "Le Grande-grille" comes from a large iron grating which formerly protected the spring from animals. There is a circular basin in the centre, into which the water gushes and bubbles because of the subterranean pressure of the great amount of carbonic acid gas with which the spring is charged. In order to keep the water from contact with the air, the basin has been hermetically closed by means of glass. There is a large output both for drinking and baths. It is used most of all in affections of the liver. The waters from the spring "L'Hospital" are reputed to be effective in cases of gastric embarrassment, while "Chomel" is prescribed for those whose respiratory organs are affected. "Lucas" has a very large output, 200,000 pints, which is moderate in temperature and used chiefly for baths, particularly for those suffering from skin diseases. In the neighborhood of Vichy, at Cusset, is the spring "Mesdames," somewhat ferruginous, and seems to be specially indicated in cases of debility and anemia, while the "Andreau" waters are employed in renal, genito-urinary and uterine disturbances.

It would seem that the waters of Vichy, rather than being laxative and debilitating, as was formerly thought, are bracing and produce constipation.

Outwardly, in the baths, the waters of Vichy rid the epidermis of all the fatty materials which are deposited there. To this is joined the stimulus given to the skin by the mineral elements in the water and the gas which it contains. As a result of this double action, a keener impulse is given to the circulation. Taken inwardly, the result is chiefly a cleansing of the passages in a manner analagous to the external effect produced by the baths.

There is a more abundant production of gastric juice in the stomach, and this is revealed first by a considerable increase of appetite, a feeling of general revivification, and a power of resisting fatigue. The waters act less as medicines than as rebuilders charged with rendering back to the system a proper performance of organic life. Their action is lasting, because they do not remove merely the symptoms of disease, but its causes, that is, the lack of nutrition which gave it birth.

The town is well provided with the usual accessories of a spa. Its climate and amusements are not very unlike those of Paris. —*Exchange.*

A NEW FORM FOR POST MORTEM REPORTS.

A NEW form for the use of doctors conducting post mortem examinations has been prepared by Dr. Arthur Jukes Johnson, chief coroner, and has been adopted by the Attorney-General's Department.

It is now being sent out to all the coroners throughout the province, to be used at every inquest.

The idea is to get definite, detailed and uniform medical information for use at trials. Dr. Johnson has drawn up a form much after the style of an insurance form. It is hoped that it will do away with the conflict of medical testimony which often interferes with the cause of justice. The doctors will be enabled to put down in black and white the information desired on the points given.

AN ADDRESS TO DR. REEVE.

AT the annual meeting of the Alumni Association of the University of Toronto it was resolved to present the following address to Dr. R. A. Reeve, ex-President of the British Medical Association, on his retirement from the Presidency of the Alumni Association, which he had held since its inauguration in April, 1900; the address was presented by Principal Hutton, Acting President of the University of Toronto:

"This Association cannot permit Dr. Richard Andrews Reeve to vacate the office of President, which he has adorned for seven years, without giving expression, however inadequate, to some of the gratitude and appreciation with which they regard his unequalled services and untiring devotion to the society.

"When Dr. Reeve became the first President of the important organization, which has since become a power in the land, it was

not to office, still less emolument, but to hard labor and unceasing solicitude that he was called. It is largely due to the courage with which he faced that anxiety and those tasks that the same office of President has now become an honor, if not a sinecure, in the hands of his successor."

(Publisher's Department.)

STIMULATION OF THE NATURAL OPSONIN INDEX.

BY H. SYLVESTER, LONDON.

The medical world has been deeply interested for the last few years in the experiments and reports of Wright and Douglas, who claim that the immunity of the organism is due to the influence of opsonins on the leucocytes. The leucocytes are only able to properly perform their duties as phagocytes, when the opsonic index is normal. To the average practitioner, this question of opsonins, of Pleiffer's theory of a serum which destroys bacteria and allows the phagocytes to do their work, and of Ehrlich's side-chain theory, are speculative, and to those who have attempted to understand something of these yet obscure questions, there appears to be much that is far from practical, and which require further investigation.

Nevertheless, the work done in Wright's laboratories is on the lines of progress, and we may hope that with time, something definite will result from this earnest effort, something of wide application, not only applicable to a few particular infectious diseases, but of general utility. Other papers have so fully exposed the theory of the opsonins (see Hektoen, *A. M. Journal,* May 12th, 1906) that it is unnecessary to recapitulate what has been already published. One fact, however, must be remembered, viz., that the leucocytes taken from a serum containing opsonins against any particular bacteria, when washed and placed in normal saline solution, will not exert a phagocytic action again on tht particular bacterium. If, however, the bacteria are treated with serum containing their own particular opsonin, and are then washed and placed in normal saline solution containing leucocytes, the latter will immediately have a phagocytic action, and the average number of bacteria digested by the phagocytes will be the opsonic index. In normal health this opsonic power must of necessity, therefore, be elaborated within the body itself, and its prophylactic properties will be the measure of the natural resistance of immunity to bacterial invasion; that is to say, the body is able to elaborate by some yet unknown internal secreting organ, a distinct opsonin for each form of bacteria. For the

opsonin which renders the phagocytes active against the tubercle bacillus is useless against the streptococcus pyogenes, or the latter opsonin against the staphylococcus, etc. After all, then, and with all due respect to the work of these investigators, until they are able to evolve something definite from the present chaos of theories, let us ask ourselves if we are not already, by certain internal therapeutic agents, actually stimulating the particular kind of opsonin necessary to render the leucocytes active in destroying bacteria. It is true that cures have been claimed by the infection of dead bacilli of tuberculosis, thus raising the opsonin index, and that Olmacher, of Detroit, claims to have cured various infections by similar methods to those of Wright (see *A. M. Journal*, Feb. 16th, 1906). But it is a question whether the time is yet ripe for the adoption of this therapy by the average practitioner. Many observers have not been able to confirm the favorable result claimed for the use of opsonins, and we are probably actually getting equally good results with drugs by indirectly stimulating Nature to produce the necessary opsonins. Does not quinine increase the leucocytes count?

Do we not, therefore, by such chemiotatic action, practically gain that which is claimed for the opsonins?

Again, in mixed bacterial infections, especially in tuberculosis, bronchitis, influenza, and catarrh of the air passages or gastro-intestinal tract, do not such well-known formulas as Kugloids (glycero-phosphate of quinine dissolved in benzoates of creosote and eucalyptol) stimulate the natural increase of the opsonin index and phagocytic destruction of the tubercle bacillus, staphylococcus, streptococcus, Kleb's Loeffer bacilli, etc.? (Similar examples of other therapeutic agents could be multiplied *ad lib.*)

And since each bacterium (according to Wright) requires its own opsonin to render the leucocytes active, the matter becomes very complicated.

Wright has shown that bacteria must be sensitized, as it were, by something in the blood serum, before the leucocytes will ingest and digest them, and this something cannot be formed by and in the blood *per se*, but must be derived from vital cells of the body. One theory is that the enzymes formed in the protoplasm of the leucocytes cause a bacteriolysis of the ingested bacteria, and at the same time destroys their toxines, and where this does not occur we have a toxemia. The leucocytes also probably excrete enzymes into the blood serum which sensitizes the invading bacteria, and if this is the case, then, whatever increases leucocytosis will increase a corresponding phagocytosis. We know that opium and other drugs, which lower the leucocyte count, lower the resistance or opsonic index. Where there is not a violent and

unopposed bacterial invasion and diminished chemiotaxis, all pyogenic infections actually stimulate leucocytosis, and by so doing induce a destructive phagocytosis. More light on the opsonins is wanted, and in the meanwhile we must be content to rely on our clinical experience and our materia medica in our struggle with pathogenic organisms.

"LA PRESTE" MINERAL WATER.

"La Preste" is a French mineral water containing sulphur and silicum. The sulphur is represented by gr. .0028 of monosulphide. The following is the analysis as made by Dr. Willm:

Carbonic Acid (bicarbonates)	0. gr. 0507
Free Carbonic Acid	0. gr. 0033
Sodium Sulphide	0. gr. 0099
" Hyosulphite	0. gr. 0008
" Carbonate	0. gr. 0541
Calcium Carbonate	0. gr. 0059
Magnesium Carbonate	0. gr. 0006
Silicum	0. gr. 0399
Iron Oxide	0. gr. 0006
Sodium Sulphate	0. gr. 0275
Potassium Carbonate	0. gr. 0049
Sodium Chloride	9. gr. 0031
Lutrium Chloride	traces
Borates, Phosphates	"
Arsenic	Slight Traces
Organic Matter	0. gr. 0271
Anhydrous Carbonates	Previously Dissolved
Sodium Bicarbonates	0. gr. 0765
Calcium "	0. gr. 0085
Magnesium "	0. gr. 0009

This water may be shipped anywhere without deterioration. Together with the advantages derived in general from the use of sulphur, "La Preste" water has a special action on the urinary organs. There are three main indications for "La Preste" mineral water:

1st, Uric acid lithiasis, non-surgical (brick dust deposits without renal or vesical calculi). The water acts by considerably increasing the urinary secretion and in particular the elimination of uric acid.

2nd, Chronic infection of the urinary system, whatever its origin or its degree: pyelonephritis, uretero-pyelitis, cystitis, vesical catarrh and urethro-prostatitis. "La Preste" water is especially beneficial in the pyelo-nephritis so frequently met with in cases of stricture and prostatitis, in the treatment of which

we are frequently completely helpless. It is well known that in cases of phosphatic gravel, and in infections of the urinary system, strong alkaline waters are contraindicated. "La Preste" water, on the other hand, has a most marked effect.

As was stated so authoritatively by Prof. Landouzy in Sept., 1903, in a lecture at "La Preste" before more than 120 French and foreign physicians, this watering place is destined to acquire some day a world-wide reputation, because its waters have a special therapeutic action which belong to them alone. Chronic rheumatism, gout, congestions of the liver, diabetes, dyspepsia, dry cutaneous affections, are here treated with success, but "La Preste" is above all the Mecca for patients suffering from urinary troubles.

Urinary lithiasis, uric acid and phosphatic calculi are improved and often cured by "La Preste" water. The indications are so exact that they can be reduced to the following equation:

La Preste.—Chronic infections of the urinary tract. In a remarkable report on severe cystitis presented in Oct., 1903, before the Congress of Urology at Paris by Dr. Leon Imbert, lecturer on the Faculty of Montpelier University, former Interne of the Necker Urinary Clinic, reviewing all the therapeutic agents made use of in the treatment of this affection, expresses himself thus: "The waters of 'La Preste' in the Eastern Pyrenees are particularly efficacious. They are different from all others in that they are sulphurous and silicated. I have often obtained excellent results in cases of long standing cystitis rebellious to treatment. Even tuberculous cystitis is happily influenced by the waters of 'La Preste.' Under its action hematuria sometimes ceases completely, even when numerous applications of various antiseptics had had no effect."

There are also deep seated inflammations of the urethra which are uninfluenced by the action of antiseptics because they are a part of a general condition: Lymphatic, herpetic, arthritic, but which readily give way to the hydro-mineral treatment. Many cases of urethritis and prostatitis due to infection of long standing, especially in herpetic subjects, are, according to Dr. Lamarque, completely cured by the sulphur treatment.

In a recent work on diseases of the urinary system, the distinguished surgeon of the hospitals of Paris, Dr. Bazy, insists on the treatment of cystitis, pyelo-nephritis and chronic rheumatism in its various manifestations by the cure at the waters of "La Preste." Gouty subjects are also benefited by this cure.

Besides the above affections one must bear in mind that the waters of "La Preste" act more favorably in cases of dyspepsia, which so frequently accompany the uric acid diathesis, as well as in attacks of congestion of the liver.

Contraindications.—Large renal and vesical calculi, non-compensating cardiac lesions, pulmonary and renal tuberculosis, visceral carcinomata and cachetic conditions.

CHRONIC PARENCHYMATOUS NEPHRITIS.

Mr. B., a prominent business man, came to Dr. R.'s office two years ago complaining of headaches. Urine analysis showed albumin, which, however, cleared up in about six weeks, but patient was advised of his condition and told that he must live a quieter life. This he evidently did not do, but returned to Dr. R.'s office a year later, December, 1906, saying that in September, on account of failing eye sight, he had gone to an optician, who gave him glasses, but that he was growing worse, and came to the doctor and asked him to do something for him. The symptoms that he complained of at that time was his complete inability to attend to business. His failing vision, nocturnal eneuresis and seminal emission. Urine analysis showed two-thirds of one per cent. albumin. Patient was sent to an oculist, who reported albuminuric retinitis, an advanced case, and gave three months for the patient to live.

Patient was put on Nephritin, five tablets three times a day, and there was immediate and continued alleviation of the symptoms, until at the present time, ten months later, symptoms have all cleared up with the exception of the vision, which, although it has been relieved, shows an apparently permanently affected condition, but the patient is able to give a great deal of his time to his business.

Meningococcic Serum.—The therapeutic properties of the meningococcic Serum have already been tested in a considerable number of cases of cerebrospinal meningitis. These investigations have shown that Jochmann's serum has a very favorable influence on the course of cerebrospinal meningitis—excepting in very advanced cases in the hydrocephalic stage. The majority of the patients reacted at once with a fall of temperature. In some cases the fall was transitory, but it became more prolonged on continuing the injections with larger doses of the serum. The injections were first given hypodermically; later intralumbar injections were also given. The treatment was not followed by any appreciable injurious secondary effects. The mortality of the patients treated with the serum was 27 per cent.; of those not so treated, 53 per cent. The intralumbar injections appear to be more efficacious than the hypodermic, and it is advisable to at once inject fairly large doses (20-30 ccm.) into the spinal canal after lumbar puncture and the

withdrawal of 30-50 ccm. of lumbar fluid. The injections should be repeated every day if necessary, until a visible action is produced on the temperature curve. After the injections the patients should be placed for 12 hours with their heads low. For prophylactic purposes Jochmann recommends the hypodermic injection of 20 ccm. Meningococcic Serum is issued in original glass vessels containing 10 ccm. It is manufactured by E. Merck, Darmstadt, Germany.

Hunyadi Janos Natural Laxative Water.—The medical profession in general recognize the value of Hunyadi Janos natural laxative water as a remedy for constipation and diseases or impeded conditions of the intestines and rectum, and largely recommend its use in cases of this kind. Its prompt action, the small dose (half a glass on rising), the fact that it produces no griping or unpleasant after-effects, and its tonic action upon the stomach make it an especially safe and desirable remedy. We quote from the *Progrès Médical*, of Paris, France, as follows "Nothing can be justly compared with the nutritive and regenerative effects brought about by Hunyadi Janos water, which is eminently absorbable, and the curative effects whereof appear to penetrate even the finest capillaries of the interstitial circulation, causing them to disgorge their morbid elements and promoting molecular interchanges tending to the purification of the tissues and to the normal renovation of their anatomical constituents."

An Ideal Mouth Wash.—H. Koerner recommends as a superior mouth wash perhydrol, which is an absolutely pure preparation of hydrogen peroxide (30 per cent. by weight and 100 per cent. by volume). An ideal mouth-wash must be absolutely harmless, since small amounts will always be swallowed accidentally or will be absorbed by way of the oral mucous membrane. It should possess strong disinfecting properties, though it will never be possible to rid the mouth altogether of germs. Lastly, there should also be a mechanical factor in cleansing. The perhydrol mouth wash fills all these requirements in an ideal manner. In order to mask any slight taste due to evolved oxygen, a small amount of peppermint oil has been added to the lotion, together with a red organic dye, to give it a pleasing appearance. For use, the wash is diluted with two parts of water and is allowed to act upon the mucous membrane of the mouth for two or three minutes after every meal. In all diseased conditions of the mouth and gums, it is best to use the 3-per cent. wash undiluted. —*Aerztl. Vierteljs.-Rundschau.*

BOOK REVIEWS.

Animal Therapy: Its Relation to Immunity in the Treatment of Tuberculosis. By Dr. Gilliford B. Sweeny, Pittsburg, Pa., U.S.A.

In a forty page monograph the author reviews the work done by himself and other physicians who aided him in his laboratory and clinical experiments.

Having been a pupil of Metchnikoff at the Pasteur Institute, Paris, Dr. Sweeny became deeply imbued with the doctrine of phagocytic defence in seeking for an immunizing agent with which to free the human organism from the tubercular germ.

Subsequent work with Prof. von Behring in Germany convinced the author that it was possible to render young domestic cattle immune to tuberculosis by inoculating them with a sterile emulsion containing tubercular bacilli, this emulsion being injected into the jugular vein.

After demonstrating that this acquired immunity could be transmitted to other cattle, whether they were healthy or already tuberculous, by inoculating them with the lymph drawn from the thoracic duct of the immunized animal, Dr. Sweeny proceeded to inoculate tuberculous patients in a like manner. For five years the author and his colleagues continued their experiments in America and Europe before he announced the results of their work in his monograph upon the subject.

Dr. Sweeny does not claim that his remedy, which he has called "anti-tubercular lymph," is a specific for all forms of tubercular infection, but he states that where the blood of the patient has not been seriously depleted by the operation of the tubercular bacillus, remarkable results may be looked for.

Even in cases where pulmonary cavities of considerable size have existed previous to the administration of the lymph, some of his most brilliant results have been obtained. The remedy is injected hypodermically in the subscapular region in doses ranging from ten to twenty minims daily. No unpleasant reaction is observed. The influence of the lymph upon the opsonic index is prompt and unmistakable. Night sweats and excessive expectoration, as well as the acute pleuritic pains, are controlled even in cases which go on to a fatal issue.

The results reported in Dr. Sweeny's monograph is of sufficient interest to warrant a careful reading of his article, which also deals with the subject of immunity and infection in an interesting and original manner.

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Original Contributions.

ADDRESS IN SURGERY.*

BY INGERSOLL OLMSTED, M.D., HAMILTON, ONT.

Mr. President and Gentlemen,—The honor of being chosen to deliver the address in Surgery at the meeting of this Association is one I had not expected. After looking over the names of the distinguished gentlemen who have filled this honorable position, I feel any words of mine quite inadequate to express my gratitude to you, and it is with mingled feelings of pleasure and anxiety that I attempt to speak of the advances which surgery has made during the last few years. Not having had the extensive clinical experience of many of the gentlemen who have addressed you in the last few years, I shall only attempt to draw your attention to some of the most important work which has been done in different countries.

In surgery, especially, has the English-speaking people contributed more than their share of good work, and America, particularly, should be proud to be favored by the visits of distinguished surgeons from abroad.

Great advances have been made in the surgical treatment of diseases, yet in many instances our hopes have not been realized. Thus, when the tetanus bacillus was isolated and a serum prepared, it was thought a treatment had been found that would ward off the usual fatal termination of this disease. This has now been found to be erroneous, and, in fact, the use of antitetanic serum has almost been abandoned in the treatment of

*Read before the Fortieth Annual Meeting of the Canadian Medical Association, Montreal, September, 1907.

cases of tetanus. Fortunately, however, the serum is almost a certain preventative of the disease. Thus, in 1903, in the United States, there were 406 cases of tetanus reported, following accidents received during the Fourth of July. In the present year only 73 cases were reported. This marked improvement is attributed to more careful treatment of the wounds, and the administration of the antitoxin. In a recent discussion of this disease before the Surgical Society of Paris, Berger stated that during the last seven years all patients, with one exception, entering his wards with wounds in which there was a possible infection with the tetanus bacillus, received a small dose of anti-tetanic serum. The one patient who had not received the serum was the only one that developed tetanus.

It is now the rule in many hospitals in America to give the serum in all cases having wounds which could have become soiled by dirt, manure, or other foreign substance. The serum should be repeated, as a single dose will not always prevent the disease. Suter and James Bell have each reported a case where tetanus developed forty-seven days after a single prophylactic dose of the serum had been given.

Although hemophilia is a comparatively rare condition, it comes to our attention at times in a very realistic manner. It is very disagreeable for a surgeon to be called to operate on some acute surgical condition when the patient is affected with this interesting blood state. The use of calcium chloride and subcutaneous injections of gelatine, although at times very useful, fail to check the copious oozing in subjects of this disease.

Hemophilia is presented in two distinct etiological conditions, first accidental, and second hereditary. In the accidental variety there is no history of heredity, or injury, or previous serious disease. Its course is more or less benign, and occurs at less frequent intervals, and requires a more serious injury for its production. In the hereditary variety, on the contrary, the tendency to hemorrhage follows the slightest wound, owing to the fact that coagulation is very much retarded. Emile Weil has shown that fresh human or animal serum introduced into the system of patients affected with hemophilia produces a marked increased coagulability of the blood in the hereditary variety, and in the accidental variety the coagulation becomes normal. This followed the intravenous injection of 20 cubic centimetres of animal blood serum. The change in the blood occurs about twenty-four hours after the introduction of the serum. Locally the serum has much the same action.

It appears that in the accidental form of hemophilia there is an absence or diminution of the ferment which causes coagulation, while in the hereditary form there seems to be some anti-

coagulating substance. If the antidiphtheritic serum be used, and this is the most easily obtained, it should be fresh. Numerous observers have confirmed the beneficial effects of this method of treatment, and it certainly should be given a trial. If the serum be given subcutaneously, 20 or 30 c.cm. should be used.

With our present methods, the brain may be examined with comparative safety, yet there is still much to be desired. The unfortunate results which have formerly followed cerebral hemorrhage in the newborn, can, by the intermusculo-temporal operation, be frequently relieved. In most of these cases the labor is protracted, and the child is asphyxiated as a rule when born. Even the most desperate cases should be given a chance. There are usually localizing symptoms, yet one should not hesitate to open both sides of the skull if necessary. This is also indicated in fracture of the base. Undoubtedly many cases have died from compression, which would have been saved had the skull been opened. The convalescence is much quicker, and the recovery better. I can recall several cases of fracture of the base with extensive hemorrhage that were relieved by this means.

In case of papillary edema due to cerebral compression, a decompression operation will ward off the symptoms. In one case operated on for Dr. Osborne, the sight, which was rapidly failing, made rapid improvement after the operation. An early interference is necessary in order to forestall atrophic changes in the nerve, and a large sized disk should be removed.

For severe cases of tic douloureaux, the evulsion of the sensory root of the casserion ganglion removes the pain, and leaves no bad after effects. Cushing has operated on fifty-four cases of this disease with only two deaths. This operation is simpler than removing the ganglion, and the results are really better. Where the attacks of pain are not so severe, Charles H. Mayo exposes the nerves at the points of exit from the foramina, extracts them by slow evulsion, cuts them off, and then plugs the bony openings by driving in small silver nails. This is an operation devoid of danger and easy to perform.

The injection of 70 per cent. alcohol into the nerves is also very effectual in many cases of intractable neuralgia. In spasmodic tic, the facial nerve may be resected and anastomosed with the spinal accessory. The result in a case I saw, which Cushing had operated on, was extremely satisfactory.

Since operations on the thyroid have become frequent during the last few years, attention has been drawn to the importance of the parathyroid bodies. Although these structures were first accurately described by Sandstroom in 1800, their function remained a secret for many years. It was then found that when these bodies were removed a true tetany developed, which led

often to a fatal termination. These parathyroid bodies are often difficult to distinguish during the removal of the thyroid, being situated usually where the thyroid vessels enter the gland. They get their blood supply apparently from the thyroid vessels, and hence, if a complete thyroidectomy be made, the main trunk of the vessel should not be ligated, but rather the branches as they enter the gland. Halsted usually leaves the upper pole of the thyroid where the superior thyroid enters. One of the dangers of this procedure is the liability of secondary hemorrhage. Dr. Charles H. Mayo leaves the posterior capsule of the gland, believing by this procedure that the parathyroids will be uninjured. Halsted, who has had an unfortunate experience in one of his cases, does not think that Mayo's procedure will preserve the integrity of these important bodies. He has successfully transplanted parathyroids in the spleen of a dog, and also into the opposite half of the gland. Von Eiselberg had two cases of grave tetany following thyroidectomy during the past four years, and in both cases the administration of the dry parathyroids successfully relieved the condition. In one case of tetany of long standing, he transplanted into the abdominal wall a parathyroid gland taken from a patient operated on for goitre. The result was very good indeed, as the tetanic symptoms were very much improved. The rectus muscle and spleen are eminently suitable structures for such transplantation.

If only one-half of the gland be removed, together with the isthmus, the destruction of the parathyroids on this side of the body will not influence the health of the patient, yet in this operation I believe these bodies should be preserved if possible, otherwise it would be dangerous to operate later on the other half, a condition, however, which fortunately seldom occurs. Partial thyroidectomy has been very successful in the treatment of exophthalmic goitre or Graves' disease, yet it is an operation difficult of execution, and quite dangerous.

The treatment of the gland with X-rays for some weeks before operation will, it is said, toughen the tissues, thereby lessening the danger of hemorrhage, and perhaps also that of acute thyroidism. This latter danger is, I believe, the greater of the two, and for this reason the gland should be freely exposed before attempting its removal, and free drainage should be provided.

The treatment of essential epilepsy by resection of the cervical sympathetics has not been attended by sufficient success to warrant the belief that much amelioration will result from it. The reports of cases operated on vary so much, that one unconsciously feels that the reporters in many cases are not unbiased. In the cases that have been followed for years after the opera-

tion, a return of the attacks has been the rule, just, in fact, what one would expect where the procedure is lacking in the pathogenic basis.

The excellent experimental work of Carroll has given rise to great advances in surgery of the arteries and veins. Many investigators have now been able to transplant kidneys, thyroids, etc., and it is difficult to say to what extent these experiments may benefit the human being. Arteries are now sutured when injured, and it is found that they heal quite readily. In January, 1903, I closed a small transverse wound of the femoral artery with fine silk sutures, and it healed perfectly, with apparently no thrombus, as the tibials pulsated normally afterwards. The patient, a farmer, lived for about two and a half years, doing his ordinary work, and died from a lightning stroke.

The improved method of treating aneurism by opening the sack, removing the fibrin and clots, closing the vessel openings by sutures, and then obliterating the sack, is now generally employed by surgeons. The sacciform aneurism may be cured by this, the Matas operation, without destroying the usefulness of the vessel. In fusiform aneurism, Halsted has devised a silver band with which he contracts the lumen of the vessel, without completely cutting off the circulation. His experience with this method has been encouraging.

For many years only the simplest operations were attempted in the thoracic cavity. Now, however, if there is a wound of the heart or lungs, the injured part is exposed and the wound sutured.

We have learned that these tissues heal readily, provided that there be no infection, or infection of a mild grade only. During the last few years numerous cases have been reported where the heart has been successful sutured, and indeed in many of these cases the patient was in a very dangerous state before the operation.

With Sauerbruch's pneumatic chamber the chest may be opened without shock due to collapse of the lung, and I believe the time is not far distant when every well regulated hospital will be provided with a special room for operating on lung cases. Even at the present time many cases of gangrene and abscess of the lung are cured by an early operation. It is difficult to distinguish between abscess and gangrene of the lung, yet for all practical purposes the diagnosis is unimportant as the treatment is the same in both conditions. The main point is to open early, before extensive changes have taken place. If one waits until the abscess wall becomes very thick, with infiltration and induration of the surrounding parts, or where, through aspiration, other parts of the lung become involved, the prognosis is not nearly so good. An

X-ray examination will aid very much in the localization of the disease. The aspirating needle is a dangerous instrument in such cases, as its employment subjects the patient to increased risks of infection.

In the early operation, simple, thorough drainage will usually be followed by recovery, otherwise free resection of the ribs becomes necessary. Where a fistula is left after an abscess has been drained, the lung may be resected. Even the whole lobe has been successfully removed, with cure of the patient. When Sauerbruch's chamber is not available, the careful application of sutures, which attach the pulmonary to the parietal pleura, should be made. Where further security be desired, and the condition of the patient permits, a weak idoform gauze tampon may be applied to the pleura, and allowed to remain for one or two days before opening the diseased focus.

An interesting point in connection with the anesthetic is that it is only needed at the beginning and end of the operation, as the lung and pulmonary pleura are not sensitive to pain.

Diseases of the stomach and duodenum have been discussed so much during the last few years that it seems superfluous to say anything about them, yet many of the cases of cancer come too late for a radical operation. Hoffman in an analysis of 665 cases received in the Mikulicz clinic, found that the patients were referred to the surgeon on an average of 10.3 months after the beginning of the disease, and usually they were treated by the physician three months before surgical aid was sought. This should not be. Unless an early diagnosis be made, the result must be unsatisfactory. Take a middle-aged patient with good previous history, or history of old digestive derangements, who begins to complain of stomach trouble, which is not relieved by the usual remedies, an exploratory incision should be made, and if a suspicious growth be found, a radical operation should be done. A palpable tumor cannot be felt often where the growth has advanced to such an extent that a radical operation is impossible. Frequently, when all of the enlarged hardened lymphatic glands cannot be removed, the operation should still be performed, since in many cases these enlarged glands are not carcinomatous.

In careful hands the results are very good, and as a rule the shock is not great. The general practitioner must realize the gravity of these cases and the necessity of consulting a surgeon before the symptoms are so marked that the diagnosis is evident. The successes of Kocher, Kronelein, von Mikulicz, Terrier, Hartman, Robson, Mayo, Armstrong, and many others, warrant, yes, I may say, demand, an operation. When a small tumor is felt in a breast, the patient is almost invariably referred to a surgeon

for advice, and why should a doubtful stomach case be left until a positive diagnosis be made?

There are some points in connection with surgery of the stomach in which the surgeons are not in unison. It appears to me wise to excise an indurated ulcus, for in these cases, a small cicatrix, as left by an excision, will give less chance for the subsequent development of carcinoma. In one case operated on several years ago by the Y method, there was a return of the symptoms, with hemorrhage, three years after the operation. The stomach was not enlarged, hence it may be deduced that the anastomotic opening remained sufficiently patent for its purpose. In a second case, operated on for perforated gastric ulcer, the ulcer was inverted. About two years later this patient also had some return of his symptoms. In cases where I excised the ulcer, there has been no return of symptoms. Where a gastro-enterostomy is required in greatly debilitated patients, local anesthesia will, I believe, greatly increase the chances of recovery. Four of my cases of cancer were bed-ridden and were much emaciated; excision was impossible. A posterior gastro-enterostomy was done under cocaine infiltration; all recovered and gained flesh.

Hemorrhage from the stomach occasionally occurs after appendicitis. This seems to indicate that toxines formed in the appendix reach the stomach and cause glandular degeneration with perhaps the formation of an ulcer. Where there is catarrhal appendicitis hyperchlorydria is frequently present: and thus, when an operation is being undertaken for gastric ulcer, the appendix should be examined if possible.

The treatment of disease of the gall-bladder is now on a firm basis, and as time goes on I feel sure that we will meet with fewer cases of common duct stones, for the cases will be operated on before the stones get into the common duct, though, of course, there will be some cases where the stones form in the hepatic or common duct.

In cirrhosis of the liver the Thalm operation has been found of great value. In at least 50 per cent. of cases operated on the symptoms are either entirely relieved or markedly improved. With a mortality of 35 per cent., great judgment should be shown in the selection of the patients. If this be done, the death rate will undoubtedly be diminished. I believe it is wiser not to employ drainage, as the danger of infection is thereby lessened. Where it is necessary to excise portions of the liver for neoplasms, the hemorrhage is usually effectually checked by sutures of catgut carefully applied with large blunt needles. Only the largest vessels need be ligated. The liver heals quickly.

During the last year exception has been taken by many of the

English surgeons to the removal of an apparently normal appendix during an abdominal operation, and I was amused to see opposite views expressed on this point by the editors of the London *Lancet* and the Edinburgh *Medical Journal.* I agree with the Scot, and would be very much disappointed if a surgeon closed my abdomen without removing the appendix. That some of the Germans favor this view may be gathered from an article of Pankow's, who in referring to the work of Kronig's clinic, says, "Wir bei unseren operationen die appendektomie nicht nur für erlaubt, sondern auch für geboten alten." Of course the appendix is useful in cases of mucous and ulcerative colitis. When brought through the abdominal wall it provides an excellent means of irrigating the colon. I have used it also as a safety valve in a case of obstruction of the transverse colon due to a band where the cecum and ascending colon were tremendously distended.

A number of cases of chronic sigmoiditis, causing symptoms of obstruction, and closely resembling carcinoma, have been reported. Mayo considers his cases due to an acquired diverticulitis.

Last spring I operated on a case of acute obstruction due to an acute streptococcic infection of a segment of the sigmoid. An excision of the part with an end to end anastomosis six weeks later, gave a perfect result. This case is, as far as I can find, unique. There have been eight cases of phlegmonous uteritis reported, but none of phlegmonous colitis that I can find in the literature.

FEEDING IN TYPHOID FEVER.

BY J. A. OILLE, M.D.

Those who attended or read the reports of the British Medical Association, which met here in August, 1906, or those who have followed the literature on Typhoid Diet, must have had it impressed upon them that this hackneyed, though all-important subject, is still undergoing a process of evolution. Since the time of Hippocrates, Galen and Celsus, who allowed only barley water and the like for the acute stages of fevers, until the present, the diet has gradually become more liberal. In the latter half of the seventeenth century Sydenham added water gruel, barley gruel and a few spoonfuls of broth. From 1840 to 1850 Graves, of Dublin, contributed his well-known principles of feeding fever cases. In the latter third of the last century milk came into favor for typhoid, and to-day is the basis of the orthodox diet. However, as early as 1886, F. C. Shattuck, of Massachusetts General Hospital, and Bushuyev, of the Kief Military Hospital, Russia, began to use what to many may appear an extraordinary liberal diet.

It is not the purpose of this paper to discuss all the plans of feeding typhoid in use at the present time. It is the intention to limit the discussion to the restricted fluid *versus* the mixed soft and solid diet.

When such men as Sir Thomas Barlow, Smith of the London Hospital, Marsden of the Monsall Fever Hospital, Manchester, F. P. Kinnicutt, Professor of Medicine at Columbia, Hare, J. B. Nichols and Thomas A. Claytor, of Washington, and many others, are advocating in principle and practice more liberal feeding, and if by so doing we can shorten the patient's period of disability by ten or twelve days, add greatly to his comfort, perhaps even lower the death-rate, without increasing his danger of complications—indeed, perhaps lessening it—should we not pause a moment and consider whether we are doing the best we might by our patients when we restrict them to a liquid diet for so long as we have been doing. Our chief reasons for doing this have been: (*a*) the fear that too liberal or improper feeding might cause a relapse, hemorrhage or perforation; (*b*) the idea that the patient could not digest soft or solid foods satisfactorily and that gastro-intestinal complications might follow.

The essentials of a typhoid diet are these: (1) Its nutritive value shall be sufficient, (2) it shall be as easily digested as pos-

sible, (3) it shall be palatable, (4) it shall do no harm to the patient.

(1) *As to Nutritive Value.*—The rational treatment of typhoid fever is to hasten the immunity reaction. It is a blood and lymphatic infection and in the absence of any direct means to reach the germ, such as by some drug that might be absorbed into the circulation in sufficient quantities to kill the germ or neutralize its action, or by some method such as Dr. Wright's promises to be, the best remedial measure at the hand of the general practitioner to-day is to preserve the patient's strength as much as possible, in order to assist nature to complete this immunity reaction. At the present time the best antiseptic available to combat the bacilli lies in the patient's own blood, whether it be immune body or complement, leucocyte or opsonin, or all combined. If we except diphtheria, smallpox and syphilis, each an example of a rational method, how else are any of the specific fevers (pneumonia, scarlet fever, tuberculosis, measles, etc.) cured? Pneumonia is the best example of this immunity reaction in which consists the cure. At the crisis the pneumococci are not all killed or expelled from the system. They are there and are still living, but through some wise provision of nature they are tolerated as defeated invaders, without harming the patient. This state of comparative peace and safety is called immunity. Such is the case in typhoid, only the conflict to bring about the reaction is longer drawn out. It is finished when the fever ceases. But the bacilli are still present and often remain for months in the patient's bowel, gall or urinary bladder. However, on account of some fortifying anti-bacterial substance, they cannot live and multiply in the blood. Is it not reasonable to suppose that the patient's system is best able to manufacture these fortifying agents when the general strength and nutrition are at their highest state of perfection? We know such is the case in tuberculosis. One does not need to be a physician to know that a person weakened by disease, starvation or exposure is an easier victim to bacterial invasion than one strong and robust. We know that a tubercular individual often succumbs to influenza from which a healthy man would escape altogether, or be scarcely ill enough to stop work.

We are greatly concerned about the healing of the ulcer and the same principle holds with regard to this also. We know that the typhoid patient's bed-sore or boil does not heal well until he begins to gain in strength and weight. Sometimes after a severe burn an area heals slowly or not at all. Give the patient a tonic mixture and improve his general nutrition, and it heals rapidly. Therefore, is it not rational—yes, all important—to maintain the

strength and nutrition at the highest point to promote the resistant and healing powers of the patient to the limit of efficiency, if we can do so without harmful effects?

Typhoid is a long and wasting disease. It is impossible to prevent loss of weight under any diet. The typhoid toxins destroy the proteids of the body cells faster than they can be built up under the most favorable of metabolic conditions. It is therefore necessary to do our best to maintain nutrition and reduce the loss to a minimum. From the analysis of the causes of 580 deaths in Notnagel's Encyclopedia, 46.9 per cent. die from the severity of the infection. Hence, nearly one-half the danger is the inability of the strength of the patient to bear the infection.

Without going into figures of the daily nitrogen loss, the number of calories required, etc., according to Forscheimer, three quarts of milk per day is the amount necessary to furnish the required nutrition. It is almost impossible to give for any length of time to a typhoid patient any more than two quarts. This is a strong objection to milk or fluid diet. As much as can be ordinarily given is inadequate and this, too, at a time when it is so important to maintain strength and nutrition.

(2) *As to Digestibility.*—The following references concerning the patient's ability to digest are taken from Digest of Metabolism Experiments, Bulletin 45, Revised Edition, U. S. Department of Agriculture. Atwater and Langworthy fed fifteen cases of typhoid on a mixed diet, consisting of proteids, 180 grams; fat, 60-90 grs; and carbohydrates, 300 grams, without a complication. They found that 79-82 per cent. of the nitrogen was absorbed during the febrile period and 85.6-90 per cent. after defervescence. The proteid digestion was increased by plenty of water.

Khadgi, of St. Petersburg (Page 209 of Atwater's Digest), from 17 cases found 83.8 per cent. of the nitrogen absorbed during the fever and 87.5 per cent. afterwards. J. B. Nichols, of Washington, found it to be 83.4 per cent. during and 87-90 per cent. afterwards. Authorities, therefore, agree quite closely that the power of proteid digestion during the febrile period is lessened about 5-10 per cent. Fats and carbohydrates are easily digested, and therefore the same or less is true of them. Then the fear of a fairly liberal diet, on the grounds of the patient's inability to digest it, is groundless in cases of average severity.

However, considering the importance of maintaining the nutrition, we must tax the digestive functions as little as possible, by giving the most nourishing and easily digested foods in an absolutely fine state of division, with all undigestible parts (such as seeds, skins, etc.), excluded. The following table is from J.

B. Nichols' paper on this subject in *American Medicine,* May 6th, 1905:

Name of Food	Per. cent. Digested and Absorbed	Nitrogen Loss
Eggs—White	93.4	.6
Eggs—Yolk	92.3	5.2
Cream, Eggs, Milk Gruel, Wine.	92.8	6.2
Meat Extract	92.0	8.8
Ham	91.3	1.4
Porridge	89.1	.9
Milk	86.8	7.9
Milk and Bread	81.5	11.0
Milk, Broth, Bouillon, Tea	59.5	9.7

The table needs no comment. However, notice the low percentage of the combination of milk and broth.

(3) *As to Palatability.*—Variety of food adds to the comfort of the patient. They take more nourishment. Pawlow has shown that relish initiates the reflex for the secretion of the digestive fluids. Therefore, by giving foods a patient relishes one is aiding his digestive functions.

(4) *The Food Must Do No Harm.*—In typhoid the dangers that one has to consider in association with food are: (*a*) Distention, (*b*) Continuous peristalsis or diarrhea, (*c*) Pressure or irritation of solid or bulky fecal residue on the ulcer, (*d*) Increase of fever or relapse.

(*a*) Distention *occurs* in those severe toxic cases, with a semi-paralysis of peristalsis, whereby bacterial growth is encouraged, resulting in putrefaction, fermentation and gas formation. In such cases there is depression of gastric and intestinal secretions and soft or solid food should not be given. At the same time, milk would favor the production of this condition, just as any solid food.

(*b*) Continuous peristalsis, by its mechanical effect, would tend to hinder the healing of the ulcers and perhaps dislodge clots in the ends of vessels in the ulcer, giving rise to hemorrhage. This, no doubt, partly explains the association of hemorrhage with diarrhoea. Peristaltic movements, caused by food, are apt to be greater than those caused by purgatives which are so commonly given. The danger from solid food is no greater than from liquid because, if properly selected and given, the solid food is a pasty semi-fluid mass in the stomach and is a milky fluid in the small bowel before it gets to the ulcer area. In fact, most of it is absorbed before it reaches this region. Broths are more dangerous in this respect than soft or solid foods.

(*c*) Pressure or irritation of solid or bulky fecal residue on the ulcer. This possibility gives rise to more fear than all the others combined. From the following table, also from Dr.

Nichols' paper, it will be seen that certain solids are not so dangerous after all. In health:

Food	Absorbed	Residue
Beef	95.6	4.4
Fish	95.1	4.9
Eggs, hard boiled	94.8	5.2
Milk	92.0	8.0
White Bread and Butter	95.2	4.8
Potatoes and Bread	90.6	9.4

These percentages correspond pretty closely to those of the febrile period. Now it has been shown that in average cases the digestive function is only 5-10 per cent. below normal. It has also been shown that even such solids as are mentioned in the table are as fluid as milk by the time they reach the lower part of the ileum; in fact, meat, fish, eggs and bread and butter have less residue than milk. Then, with proper precautions, are not these foods as safe as milk? If meat and hard-boiled eggs are safely disposed of, then what can be the objection to such articles of diet as are termed soft, *e.g.*, custards, jellies, gruels, porridge, raw or soft poached eggs, bread or crackers in milk, rice, cornstarch and tapioca puddings, etc. Now it follows that the only solid masses that pass the ulcers are indigestible bits of food. It is nearly completely in our power to exclude these. By second nature we exclude fruits with seeds or skins. Scraped beef is better than minced, for one avoids tough strings of fascia, bits of gristle, etc. Many allow their patients to chew their meat, but one can never tell who can be trusted to masticate it sufficiently fine. Crusts of bread or toast should not be allowed, for parts of them are nearly carbon.

(*d*) *Relapse.*—Much disagreement exists over whether food causes a relapse or not. The concensus of opinion seems to be that a true relapse is re-infection and occurs because the immunity is not complete. If such be the case, one would expect fewest relapses in best nourished cases. If it be due to food, it is not due to any special kind or amount, but rather to any sudden change in the kind or increase in the amount. A quantity of food given abruptly that would cause trouble, would not do so if it had been brought to that amount gradually.

Dr. Osler gives the percentage of relapses as ranging from 3 to 18 under fluid diet. With such a wide variation, statistics to be of value should cover cases in the same institution for the same period of time, which should be several years at least. Shattuck's and Bushuyev's figures show nearly an equal percentage of relapses under the two diets. Kinnicutt had, however, 5 per cent. fewer relapses under a liberal diet, but these cases may have been selected. Others report varying percentages, from 3 to 17

or 18. The evidence is incomplete and inconclusive, and one must not place too much confidence in statistics. Different epidemics vary in complications. Some have many relapses, some many hemorrhages and some perforations. For instance, at Johns Hopkins Hospital during the last year, there occurred 11 perforations in 115 cases. Had that occurred under a liberal diet, how misleading would have been the conclusions.

There is no doubt, however, but that food can cause a temporary elevation of temperature. All must have seen a temperature go up two or three degrees after giving the first egg-nogg or poached egg. Possibly had the patient been given half an egg-nogg or half an egg the first day the temperature would not have gone up. True food fever is due to sudden changes in variety or amount of diet, and only lasts a few days. The advocates of a liberal diet say it may be disregarded, and should not be considered a contra-indication to feeding, in the absence of any other symptoms. Changes in diet should be made very gradually and very cautiously. A true appetite and moist, clean tongue are indications for increasing the diet. If the tongue is dry only fluids can be given. Every case must be fed on its merits. The condition of the abdomen and the character of the stools should be watched daily.

Now to briefly discuss a few individual foods:

Milk, when badly borne, should be discarded or modified. When well borne, it is one of the best of foods. It should be given diluted with lime water or barley water, partly peptonized, or given as junket to avoid curds.

Notice again that the combination of milk and soups is bad. Soups are not very valuable, but thickened with flour, cornstarch or oatmeal, are good.

Jellies (fruit, chicken, wine or oatmeal) are palatable and nourishing, with the additional advantage of increasing the coagulability of the blood. Milk, being rich in calcium salts, should do this, too, but Boggs, of Baltimore, found lessened coagulability under a milk diet. *For fat* it is best to depend on cream and butter. Some give an ounce of cream a day. Fats of vegetable origin are much more indigestible. *Vegetables* have serious disadvantages. Many are gas-producing and all have a coarse, bulky residue. Proteids of vegetable origin are from 15 to 20 per cent. less digestible than those from eggs or meat.

Sugars, syrup and honey are theoretically good, as they have no residue, but they ferment readily and may favor distention. If they agree, they are certainly safe and valuable. Some give three or four ounces of sugar daily. One often notices a great craving for sugar towards the end of the attack. In our hospital here a pound or two of common taffy was often made

and was in great demand. We might have been more liberal with it.

White Wheat Bread is as digestible as milk and leaves less residue. It may be given with butter, as toast, milk toast, bread and milk or bread pudding. The crusts should be removed. Bread or toast or crackers given dry are often preferred and in this way good mastication stimulates the salivary secretion and gives it a better opportunity to act. The various baby-foods should be good, if liked. *Fruits* are good to add relish, but only the juice should be allowed. The pulp is largely cellulose. Some allow the pulp of a baked apple. *Tea and coffee* are stimulants and cocoa has a fair nutrition value. *Meat* put through a fine chopper, after having the fat and fascial portions removed, or, better still, scraped to insure fine division, should be safe. Beef, lamb, chicken and fish are best. Pork and veal should be avoided.

Even if one were convinced that some additions might safely and advantageously be made to his present plan of feeding, one must admit that to make such a step requires considerable courage. Not only does he run the risk of being criticized by his fellow-practitioners (and losing what little professional reputation he may have), but he faces the great danger of losing his patients, for the public knows full well the generally accepted essentials of typhoid diet. Then, too, realizing the uncertainty of the occurrence of hemorrhage and perforation, the latter, according to Dr. Osler, having little relation to the severity of the disease, one has a vision of the criticism that would result from such an accident happening to a case under a liberal diet. We all know how much ill-deserved praise as well as blame we get from the laity, for in their minds the sequence of cause and effect is clearer than in our own.

However, as far as the profession goes, we have good men to follow. Sir Thomas Barlow says:

"Milk, unmixed with barley water, will be found in the intestines in large craggy masses, which certainly prove serious cause of irritation to the typhoid ulcers. On the other hand, finely minced meat will become thoroughly fluid under normal conditions of digestion. In normal circumstances only indigestible food remains in a solid condition as low down as the terminal portion of the ileum. It would seem advisable, then, to feed patients much more liberally both as regards quantity and variety than has been the custom, first, in order to shorten the stay in the hospital, and second, in order to prevent the sequelæ of typhoid fever, such as abscesses and thromboses, which were shown by statistics to be much more frequent after typhoid fever treated with an exclusive milk diet, than when treated with a more generous and varied diet."

Hare is fully impressed from physiologic facts, as well as personal experience, with the utter inadequacy of the pure milk diet. He gives all patients, after the first week, one or two soft-boiled eggs a day with the ordinary allowance of milk and varies their diet with curds, whey, rice boiled to a pulp, barley, wheat and oatmeal gruel and a cup of cornstarch, flavored with vanilla.

To quote also from Bushuyev:

"Under this regimen, the general condition of the patient is much better than when kept upon an exclusive fluid diet. The common complaints are scarcely ever heard. At breakfast, dinner and supper, the patients are uncommonly wide awake. Even those who are very ill sit up in bed, beg for food and eat with much satisfaction. Only a few have to be fed by nurses. If one observes these patients' meal times, he wholly forgets that these individuals are seriously ill, with temperature above 39 deg. C. During the first hours in the ward the patient lies in a motionless condition, failing to answer questions and refusing food. But if one succeeds in some way or other in persuading him to eat a bit of meat or cutlet or an egg, he immediately begins to show some interest in his surroundings."

He gives as important points: (1) To stimulate the appetite, (2) to avoid disgusting the patient with food brought before him he cannot eat.

The following is Bushuyev's daily menu: At 7 a.m. A cup of tea and a roll. 8 a.m. 400c.c. of liquid oatmeal, wheat or barley gruel, with butter. 9 a.m. One or two eggs boiled to suit patient. 10-11 a.m. A glass of milk (200-220c.c.), half a cutlet and 160 grs. of boiled meat. 12-12.30 p.m. 200-220c.c. of soup, a cup of jelly, rarely preserves. 3 p.m. Cup of tea and a roll. 6 p.m. Cup of chicken or beef soup, semolina pudding or milk and a bit of chicken. 8 p.m. A glass of milk and a roll. At night. Cup of tea or coffee, with milk, from 2 to 4 times, with from one to three ounces of wine or coffee, and brandy in the morning.

This is F. C. Shattuck's diet:

(*a*) *Milk* diluted with soda or lime water, appolinaris or Vichy or peptonized cream and water, kommiss. (*b*) *Soups* strained, thickened with powdered rice or arrowroot, flour, cream, milk, eggs or barley. (*c*) Malted milks. (*d*) Beef juice. (*e*) Gruel, made of cornmeal, crackers or flour, barley water, toast water, albumin water flavored with lemon juice. (*f*) Ice cream. (*g*) Eggs, soft cooked or raw or as egg-nogg. (*h*) Scraped beef, minced meat, soft part of raw oysters. (*i*) Soft crackers, with milk or water, soft puddings, toast (no crust), blancmange, wine, jelly, apple sauce.

All the statistics possible of cases fed under the two plans have been collected for comparison and are shown below. The record of relapses is incomplete under the liberal diet, but comparing Shattuck's and Bushuyev's cases under each diet, their percentages were about equal. However, those of hemorrhages, perforation and deaths are most favorable under the liberal.

Kinnicutt, of Columbia, collected 1,000 cases fed under a liberal diet, with 77 deaths and no more complications than the average of the fluid. It was the intention to get figures which included not selected cases, but cases as they came. However, some were not clear on this point.

LIBERAL DIET.

Place	Time	Cases	Relapses	Hmhgs	Perforn	Death
Kief Military Hospital, Russia (Bushuyev)	1886-96	733	11.38 (in 325 cases)	4.77	1.36	9.47
"	1897	300	....	1.17	.33	8.2
Mass. General (Shattuck)	14 years	288	14.8	8.3	3.1	10.7
Dr. Kinnicutt, N.Y.	1900-06	398	....	1.	.25	....
Lakeside Hospital, Cleveland	....	1,070	....	5.8	2.7	7.9
Average for total		2,789	13. (on 613 cases)	4.6	1.8	8.77

FLUID DIET.

Kief Military, (Bushuyev)	1886-96	4,654	10.89	8.83	2.4	10.55
Johns Hopkins Hospital	Since beginning	1,500	11.4	7.8	2.86	9 1
Presbyterian, N.Y.	1894-06	1,230	13.3	12.11	2.84	11.87
Mass. General (Shattuck)	18 years	231	15.1	6.4	.4	10.8
Mass. General (others)	18 years	366	11.7	8.2	1.9	15.8
Average for total		7.981	11.5	9.05	2.45	10.73

On commencing to practise in Byng Inlet in the autumn of 1905 there were here then about thirty cases of typhoid fever. The first idea that occurred to me was that their diet was insufficient. The interval between feedings was shortened one hour. Next, the ordinary period of eight days normal temperature after defervescence before adding to the fluid diet was shortened to three. A few selected cases were allowed a poached egg or a small dish of custard as soon as their temperature reached normal. Five or six cases with long defervescence were allowed soft diet before the afternoon temperature was normal, and this put a speedy end to the P.M. rise. Fourteen private cases were fed soft diet all through the attack. They were given eggs, gruels, porridge, crackers, bread and milk and the like. In these cases there were no deaths, perforations, hemorrhages or relapses.

Since the fall of 1905 there have been a total of 108 cases treated here, 98 in 1905 and 10 in 1906. There were five relapses, fourteen hemorrhages, one perforation and ten deaths, one from perforation, one from pneumonia, two from hemorrhage plus severe toxemia, one from severe typhoid with advanced phthisis, and three from the severity of the infection. All of the complications occurred before the diet was increased, except one relapse.

It might be argued that no patients have an appetite or sufficiently clean, moist tongue until convalescence. But Bushuyev says that few are too ill to sit up in bed and beg for food at meal times. After the first week, when the acute symptoms, such as headache or a possible diarrhea, have passed off, the appetite often returns, and an increase in diet would do away with much of the depression of secretions and the accompanying sordes, dry tongue and tympanites, much of the delirium and the danger of over-eating or bolting food during early convalescence. During the epidemic here, it was noticed that a few patients, put on an acid tonic mixture or strychnine alone, had a pretty clean tongue and a distressing appetite throughout, or at least developed an appetite and clean tongue much earlier than other cases, apparently more severe on the start.

The plan recommended is to keep them on fluids for the first few days and to add to the diet such articles as were previously mentioned in a cautious, gradual and watchful manner, according to indications, the main one being the patient's appetite. This latter idea is no new one. It is as old as Hippocrates. He says: "Such food as is most grateful though not so wholesome is to be preferred to that which is better, though distasteful." To quote also from Sydenham: "More importance is to be attached to the desires and feelings of the patient than to doubtful and fallacious rules of medical art."

Let me conclude with the words of Heberden: "Physicians appear to be too strict and particular in their rules of diet and regimen. Too anxious adherence to those rules hath often hurt those who were well and added unnecessarily to the distress of the sick."

Byng Inlet, Ont.

Discussion.

Dr. Cruickshank, of Windsor: The readers of this paper deserve the gratitude of this Association for selecting this subject, as well as for the able manner of discussing it. Five minutes is too short to attempt a comment upon it. That typhoid fever is a toxemia where something is developed in the blood that in favorable cases overcomes the bacteria, similar to the toxemia of tuberculosis, is granted, yet I venture to say if we attempted forced feeding in typhoid as we do in tubercle, the mortality would be frightful. In ulcer of the stomach the process of repair would be promoted by well-nourished blood, yet our best results ensue from a temporary abstention from food; a similar condition occurs in the intestine of some typhoid and a similar diet is useful. The time will soon come when the diet of typhoid will be worked out like a mathematical problem, so many calories for so many kilograms, with proteins and carbohydrates according to

temperature and blood counts, and I venture to say when this time comes that we will prefer to depend upon the appetite of the patient rather than physiological mathematics. In my practice a patient in one bed may be kept upon water for weeks; in the next bed a patient at the same stage of the disease is receiving one or two quarts of milk and other foods. A faithful, honest consideration of a patient's appetite is the safest guide at present. I have kept patients for four weeks on water and orange juice, and I have known one patient with a high fever who sat at the table three times a day and ate everything she wanted, and made a good recovery.

With the water diet there will be no more diarrhea, tympanites, brown tongue or sodid teeth. When the appetite does come our troubles begin and nothing has prevented me but lack of courage to advise a liberal diet. This, I hope, will soon be worked out satisfactorily. It is not a matter of milk versus solids.

Dr. Thistle, in discussing the paper, agreed with the writer that each case should be considered by itself. The digestive capacity of the patient at the time should be estimated and suitable diet arranged.

The use of the terms "liberal diet and "fluid diet" was criticized. It did not follow that fluid diet must be considered as restricted diet. A fluid diet could be arranged so as to provide adequately for the needs of the body. Various additions in the way of farinaceous and proteid materials could be made. For example, beginning with plenty of water and, say, peptonized milk or buttermilk in cases where toxemia was very marked and the digestive secretions much restricted, one could go on enlarging the scope of the dietary by adding tea, coffee, cocoa, with the addition of milk and sugar; milk broths made with tomato, potato, celery, etc. In other cases, or later, a certain amount of starchy material might be added, such as well-boiled oatmeal, crushed wheat, tapioca, rice, etc.; or, on suitable cases, custard or egg, with small quantity of bread, might be given. In this way a nutritious diet could be arranged, suitable to patient's digestive capacity at the time. With the dietary arranged in this way, there did not seem to be any necessity for taxing the patient's weakened digestion with solid food, using the term in the ordinary sense.

Dr. Thistle referred to the report of Dr. Smith, of the London Hospital, read at the British Medical meeting of last year, advocating solid food. Dr. Smith reported 113 cases, with a mortality of 23.

Proceedings of Societies.

CANADIAN MEDICAL ASSOCIATION—THE NEW CONSTITUTION AND BY-LAWS AS ADOPTED AT THE MONTREAL MEETING, SEPTEMBER 11th TO 13th, 1907.

Article I.—Title.

This society shall be known as the Canadian Medical Association.

Article II.—Objects.

The objects for which the Association is established are the promotion of the medical and allied sciences, and the maintenance of the honor and the interests of the medical profession by the aid of all or any of the following:

(*a*) Periodical meetings of the members of the Association, and of the medical profession generally, in different parts of the country.

(*b*) By the publication of such information as may be thought desirable in the form of a periodical journal, which shall be the Journal of the Association.

(*c*) By the occasional publication of transactions or other papers.

(*d*) By the grant of sums of money out of the funds of the Association for the promotion of the medical and allied sciences in such manner as may from time to time be determined.

(*e*) And such other lawful things as are incidental or conducive to the attainment of the above objects.

Article III.—Membership.

The Association shall be composed of ordinary and honorary members. Ordinary members must be: (*a*) Regularly qualified medical practitioners, who do not subscribe to any special dogma; (*b*) those engaged in teaching or research work in medicine or the allied sciences, in some province of the Dominion of Canada. Honorary members must be persons who have distinguished themselves and risen to pre-eminence in medicine, the allied sciences, in literature or in statesmanship.

Article IV.—Affiliated Societies or Associations and Branch Associations.

All Provincial, Inter-Provincial Medical Associations or Societies, at present existing in the Dominion of Canada, or which hereafter may be organized in the Dominion of Canada, may, by special resolution of said Medical Society or Association, become branches of or affiliated with the Canadian Medical Association, by subscribing to its Constitution, By-laws, Code of Ethics, and by securing the approval of the Executive Council. Where such organization does not exist, intra-provincial societies or individuals may unite directly with the Canadan Medical Association, until such provincial or inter-provincial associations or societies are formed and affiliate, when their membership will be continued only through such local organization.

Article V.—Executive Council.

The Executive Council shall be the business body of this Association. It shall consist of delegates elected by the affiliated societies, associations or branches, by the Provincial Medical Councils, and by the Canadian Medical Association as hereinafter provided for in the By-laws. It shall elect by ballot all the officers for the Association, except the President, Vice-Presidents and Local Secretaries, and transact all the general business of the Association. The President, Vice-Presidents, General Secretary and Treasurer shall be members of the Executive Council.

Article VI.—Sections.

Sections may be provided for by the Executive Council, or as hereinafter provided for in the By-laws.

Article VII.—Meetings.

The meetings of the Association shall be held annually, at such time and place as may be determined by the Executive Council, the branch or affiliated organization within whose boundaries the meeting is to take place withdrawing its regular meeting and holding simply an executive session, such session to be held at the same time and place as the meeting of the Canadian Medical Association.

Article VIII.—Officers.

Sec. 1.—The offices of General Secretary and Treasurer may be held by one and the same person.

Sec. 2.—These officers, excepting the President, shall be elected annually by the Executive Council to serve for one year or until their successors are elected and installed in office.

Sec 3.—The Treasurer shall give a bond to the Finance Committee for the safe-keeping of all funds in his possession and for their proper use and disposal.

Article IX.—Finance Committee.

The Executive Council shall annually appoint five of its members as a Finance Committee, which shall also be a Publishing Committee, and whose duties will hereinafter be provided for in the By-laws.

Article X.—Funds.

Funds for the purposes of the Association shall be raised by an equal annual assessment upon each Ordinary member; from the Association's publications, and in any other manner approved of by the Finance Committee. These funds, from whatever source derived, are to be transferred to the Treasurer, by him deposited in some responsible banking institution, and only paid out by him on the order of the General Secretary and the Finance Committee, through its chairman.

Article XI.—Amendments.

No amendments to any of the foregoing articles or sections thereof shall be made, unless due notice has been given in writing to the General Secretary at least one month before the annual meeting. Any such notice of motion must be laid by that officer before the Executive Council and sanctioned by a three-fourths of that body present and voting, before it is submitted to the Association.

BY-LAWS.

Article 1.—Membership.

Sec. 1—Membership—How Obtained.—A member in good standing of an affiliated medical society or association may become a member of the Canadian Medical Association by presenting to the General Secretary: (1) A certificate of membership in good standing in an affiliated or branch society or association, signed by the president and secretary thereof; (2) written application for membership on the approved form; (3) payment of the annual subscription. In the absence of membership in a local association or branch a candidate may be elected to membership by the Council on the nomination of two members from personal knowledge.

Sec. 2—Membership—How Retained.—So long as a member conforms to the By-laws of the Canadian Medical Association, he

retains his membership therein. Any member who fails to conform to the By-laws and whose subscription shall not have been paid on or before the 31st December of the current Association year shall, without prejudice to his liability to the Association, be suspended from all privileges of membership, and at the end of the succeeding year, if the arrears be still unpaid, he shall, *ipso facto,* cease to be a member. No member shall (except in case of his death or expulsion or of his ceasing to be a member under the previous provisions of this article) cease to be a member without having given previous notice, in writing, on or before the 1st December in the current year to the Secretary of the Association, of his intention in that behalf, and having paid all arrears of subscription (if any) due by him.

Sec. 3—Membership—How Restored.—Any delinquent member having once failed to comply with the sections of this article, unless absent from the country, shall have his name erased from the Register of Members of the Canadian Medical Association, and shall not be restored to membership until all such dues, as may be determined by the Executive Council, have been paid, and satisfactory evidence produced that he retains his membership in an affiliated society or association, if admitted through such channel.

Article II.—Registration of Members.

No member shall take part in the proceedings of the Association, nor in the proceedings of any of the sections thereof until he has properly registered his name and paid his annual dues for that and previous years.

Article III.—Guests and Visitors.

Sec. 1.—Medical practitioners residing outside of Canada and other men of science of good standing may be received by invitation of the Canadian Medical Association, the Executive Council, the President, or any one of the sections, or at the discretion of any of these on a letter of introduction from an absent member of the Association. They may, after proper introduction, be allowed to participate in the discussions of a purely scientific nature.

Sec. 2.—Medical students may be admitted to either the general meetings or to the meetings of any of the sections thereof, but shall not be allowed to take part in any of the proceedings. They shall be vouched for as such students by some member of the Association to either the General Secretary or Treasurer.

Article IV.—Honorary Members.

Honorary members shall be elected unanimously by the Executive Council.

ARTICLE V.—ASSOCIATION YEAR.

The Association year shall be the Calendar.

EXECUTIVE COUNCIL.

ARTICLE 1.—QUALIFICATIONS FOR REPRESENTATIVES ON EXECUTIVE COUNCIL.

Sec. 1.—No one shall serve as a member of the Executive Council who has not been a member of the Canadian Medical Association for at least two years.

Sec. 2.—Members of the Executive Council shall be elected for one year.

Sec. 3.—Every affiliated Branch, Society, or Association shall be entitled to elect in addition to its President, who becomes an *ex-officio* member, one delegate to serve on the Executive Council for its membership from fifteen to fifty; two delegates for its membership from fifty-one to one hundred and fifty; three delegates for its membership from one hundred and fifty-one to three hundred; and thereafter one delegate for every three hundred of a membership above three hundred; provided that no one delegate shall represent more than one affiliated society or association to which he may belong.

Sec. 4.—At the first general session of each and every annual meeting of the Canadian Medical Association, fifteen members thereof, who shall be present at that annual meeting, shall be elected by ballot to act on the Executive Council for one year; provided that any one already elected a delegate by an affiliated society or association shall not be at that meeting elected a member of the Executive Council. The President of the Association shall name three tellers to conduct this ballot. The fifteen having the greatest number of votes shall be declared elected.

Sec. 5.—Every three years the Executive Council shall appoint a committee of five to examine the registers of membership of all affiliated societies or associations and so apportion the number of delegates entitled to be elected by each society.

Sec. 6.—Every delegate from an affiliated society or association shall be required, before acting on the Executive Council, to have entered his name on the Annual Register of the Canadian Medical Association, paid his annual subscription to the Association, and deposited a certificate with the General Secretary of the Association, duly signed by the President and Secretary of the affiliated society or association, from which he has been elected a delegate.

Article II.—Order of Business.

Sec. 1.—The following shall be the order of business in the Executive Council, which can only be changed or departed from by an unanimous vote of that body:

I. Calling the meeting to order by the President.
II. Reading the minutes of the previous session.
III. Reports of officers.
IV. Reports of Committees.
V. Unfinished business.
VI. New business.

Sec. 2.—The Rules of Order which govern the proceedings of the House of Commons of Canada shall be the guide for conducting the sessions of the Executive Council.

Sec. 3.—Ten members of the Executive Council shall constitute a quorum for the transaction of business.

Sec. 4.—It shall be the privilege of chairmen of committees and members of the Executive Council, to report to the Executive Council, and they shall have the right to discuss their own reports.

Article III.—Meetings of the Executive Council.

Sec. 1.—The meetings of the Executive Council shall be held on the dates of the annual meeting of the Caandian Medical Association, but not until after the first general meeting of the Association, and then not at the time of any general meeting of the Association, and shall report at each business session.

Sec. 2.—The Executive Council shall elect its own Chairman, annually, from amongst its members. He shall be eligible for re-election.

Sec. 3.—Special meetings of the Executive Council shall be called by the Chairman of Council, upon a written requisition, stating the objects of such meetings, and signed by twenty members of the Executive Council.

Article IV.—Nominations, Elections and Installation of Officers.

Sec. 1.—(*a*) The general officers of the Association shall be a President, a Vice-President, and a Local Secretary, for each of the Provinces of the Dominion of Canada, who shall be the Presidents and Secretaries of the provincial organizations; a General Secretary and a Treasurer. The President shall be nominated by the Council and elected by the Association in General Session.

(*b*) Nominations.—Any five members of the Association may hand to the General Secretary, in writing, the name of

any member of the Association whom they may wish to nominate for any office, except in the case of the Finance Committee, which shall, in all cases, be elected by and from the members of the Executive Council, or any member of the Executive Council may nominate any member of the Association for any office.

Sec. 2.—(*a*) The President of the Provincial Association, within whose boundaries the Canadian Medical Association is to be held, shall be *ex-officio* 1st Vice-President of the Canadian Medical Association; and the Executive Council shall elect annually the General Secretary and the Treasurer. These officers shall serve for one year or until such time as their successors are elected and installed in office.

(*b*) All elections shall be by ballot and a majority of the votes cast shall be necessary to elect a candidate. Should there be more than two nominees for any position, the one having the lowest number of votes shall be dropped and a new ballot proceeded with. This procedure shall be continued until one of the nominees receives a majority of all votes cast, when he shall be declared elected.

Sec. 3.—The election of officers shall take place at any meeting of the Executive Council, and the exact time for same shall be fixed by the Executive Council.

Sec. 4.—The President shall appoint three tellers to conduct the ballot.

Sec. 5.—The Executive Council shall annually decide on the number of general addresses to be given at the succeeding annual meeting and shall elect the readers to deliver same. In default thereof on the part of the Executive Council, this duty shall be discharged by the President.

Sec. 6. Installation.—The President-elect shall be installed by the retiring President, at the first general session of the annual meeting of the Association succeeding the one at which he was elected.

OFFICERS AND COMMITTEES.

Article I.—Duties of Officers.

Sec. 1. President.—The President shall preside at general meetings of the Association and at meetings of the Executive Council. He shall deliver the annual Presidential Address at either the first or second general session of the annual meeting, held under his presidency, as he may decide. In the absence of the President, the Vice-President for the Province in which the meeting is held shall perform the duties, or, in his absence, the meeting shall select a Vice-President. The President shall appoint annually a Committee of Arrangements consisting of five

members who shall reside in the place at which the Association is to hold its annual meeting. He shall also name the chairman of this committee.

Sec. 2.—The President shall be an *ex-officio* member of all committees.

Sec. 3.—In case of the death or resignation of the President the Vice-President for the Province in which the annual meeting is to be held shall become the President.

Article II.—Vice-Presidents.

The Vice-Presidents shall assist the President in the discharge of his duties at his request.

Article III.—General Secretary.

Sec. 1.—The General Secretary shall also be the Secretary of the Executive Council of the Association. He shall give due notice of the time and place of all annual and special meetings, by publishing the same in the official journal of the Association, or if necessary, in the opinion of the Finance Committee, by postal card to each member. He shall keep the minutes of the General Sessions of the annual meetings of the Association, and the minutes of each meeting of the Executive Council, in separate books, and shall provide minute books for the secretaries of the different sections, which he shall see are properly attested by both chairmen and secretaries thereof. He shall notify members of committees of their duties in connection therewith. Where necessary or deemed advisable by the President, he shall conduct correspondence with other organized medical associations or societies, domestic or foreign. He shall preserve the archives, the published transactions, essays, papers and addresses of the Association. He shall see that the official programme of each annual meeting is properly published, and shall perform such other duties as may be required of him by the President or Finance Committee.

Sec. 2.—The General Secretary shall be *ex-officio* a member of all committees.

Sec. 3.—For his services the General Secretary shall receive a salary which shall be fixed by the Finance Committee.

Sec. 4.—The General Secretary may also be elected to the office of Treasurer.

Sec. 5.—All his legitimate travelling expenses to and from the annual meetings and other places ordered by the Finance Committee shall be paid for him out of the funds of the Association.

Article IV.—Local Secretaries.

The Local Secretaries shall assist the General Secretary at the annual and special meetings and shall perform the duties of corresponding secretaries for the respective provinces they are elected to represent: these duties shall be performed under the direction of the General Secretary.

Article V.—Treasurer.

Sec. 1.—The Treasurer shall receive and collect the annual fees and demands of the Association from the members. He shall be the custodian of all moneys, securities and deeds belonging to the Association, and shall only pay out moneys on an order drawn by the General Secretary and approved by the Finance Committee, whose chairman shall also sign all such orders.

Sec. 2.—The Treasurer shall give to the Finance Committee a suitable bond for the faithful discharge of his duties, and shall receive for his services a salary to be fixed by the Finance Committee.

Sec. 3.—The Treasurer may also be elected to the position of General Secretary.

Sec. 4.—When the offices of General Secretary and Treasurer are filled by one and the same person, it shall be the duty of the Finance Committee to appoint a collector of dues and subscriptions at each annual meeting, who shall be responsible to the Finance Committee.

Article VI.

All the officers shall discharge the duties of their respective positions until the completion of the business and scientific proceedings of each meeting.

FINANCE COMMITTEE.

Article I.—Appointment and Duties of the Finance Committee.

Sec. 1.—The Finance Committee, as set forth in the constitution, shall consist of five members annually appointed or elected from the members of the Executive Council. This Finance Committee shall have charge of all the properties of the Association and of all the financial affairs of the Association. It shall elect its own chairman. The chairman may then appoint any sub-committees that may be necessary or desirable in connection with the finances of the Association. This Committee shall have charge of the publication of the official journal of the

Association, and of all published proceedings, transactions, memoirs, addresses, essays, papers, programmes, etc., of the Association. It shall have power to omit, in part or in whole, any paper or address that may be referred to it for publication in the official journal of the Association, by the general meeting, the Executive Council or any of the sections. It shall appoint an editor and a managing editor of the official journal, who may be one and the same person if by them deemed advisable, and shall define the respective duties and responsibilities of each. They shall also appoint such assistants as may be deemed necessary for the proper conduct of this official journal, and shall determine their salaries and the terms and conditions of their employment. The Finance Committee shall have the accounts of the Treasurer audited annually or oftener if desirable, and shall make an annual report on the same to the Executive Council. The Finance Committee may meet when and where they may determine, and the chairman shall call a meeting on the request of three members in writing, and three members of the Finance Committee shall constitute a quorum for the transaction of the business of the Finance Committee.

Sec. 2.—The President and General Secretary shall be *ex-officio* members of the Finance Committee, and the General Secretary shall act as the Secretary of the Finance Committee.

Sec. 3.—Any donations recommended by the Executive Council shall be paid only with the approval of the Finance Committee.

Sec. 4.—The Finance Committe shall fix the annual assessment, and where feasible make equitable arrangements for commutation with provincial societies according to circumstances.

COMMITTEES.

Article I.—Classification of Committees.

Sec. 1.—There shall be (*a*) Standing, (*b*) Special and (*c*) Reference Committees.

Sec. 2. Standing Committees.—The Standing Committees shall be the following: A Finance Committee, a Committee of Arrangements.

Sec. 3.—The Finance Committee shall be appointed by the Executive Council and its members shall always be appointed or elected from amongst the members of the Executive Council.

Sec. 4.—The Committee of Arrangements shall be appointed by the President. They shall be residents in the place in which the annual meeting is to be held, and the chairman thereof shall be named by the President.

Sec. 5.—The Committee of Arrangements shall be required to undertake to provide for transportation; a hall or halls for meeting purposes; a hall for Executive Council meetings; halls for section work; rooms for committees; rooms for general secretary, and other secretaries; room for registration; room or rooms or halls for exhibition purposes.

Sec. 6.—The General Secretary shall act in an advisory capacity to the Committee of Arrangements.

Sec. 7.—The Committee of Arrangements shall have power to add to its numbers and shall name all the Reference Committees as well as the chairmen thereof.

Article II.—Special Committees.

Special Committees may from time to time be appointed by the Executive Council; they may be named by the President on the authority of the Executive Council. They shall perform the duties for which they were called into existence, and shall in all cases report direct to the Executive Council as hereinbefore provided.

Article III.—Reference Committees.

Sec. 1.—The Executive Council shall at its first meeting appoint all the Reference Committees and name the chairmen thereof. Their titles shall be as follows: (1) A Committee on Sections and Section Work; (2) A Committee on Medical Legislation; (3) A Committee on Medical Education; (4) A Committee on Hygiene and Public Health; (5) A Committee on Amendments to the Constitution and By-laws; (6) A Committee on Reports of Officers; (7) A Committee on Credentials; (8) A Committee on Necrology.

Sec. 2.—The General Secretary shall notify each member of these committees, so appointed, of his duties.

Sec. 3. Committee on Sections and Section Work.—The Committee on Sections and Section Work shall secure papers for the sections. It shall report to the President or to the Executive Council when required.

Sec. 4. Committee on Legislation.—To the Committee on Legislation shall be referred all matters pertaining to local and federal Medical Acts. It shall report to the President or the Executive Council when required.

Sec. 5. Committee on Reports of Officers.—To the Committee on Medical Education shall be referred all matters pertaining to medical colleges and medical education. It shall report to the President and Executive Council when required.

Sec. 6. Committee on Hygiene and Public Health.—To the Committee on Hygiene and Public Health shall be referred all

matters relating to hygiene, public health, etc. It shall report to the President or to the Executive Council when required.

Sec. 7. Committee on Amendments to the Constitution and By-laws.—To the Committee on Amendments to the Constitution and By-laws shall be referred all matters relating to the subject, before action thereon by the Executive Council. It shall report to the Executive Council when required.

Sec. 8. Committee on Reports of Officers.—To the Committee on Reports of Officers shall be referred the President's address, the report of the General Secretary and the report of the Finance Committee before submission to the Executive Council.

Sec. 9. Committee on Credentials.—To the Committee on Credentials shall be referred all questions regarding the registration and credentials of delegates, before submission to the Executive Council.

Sec. 10. Committee on Necrology.—To the Committee on Necrology shall be assigned the duty of collecting, as far as possible, the obituaries of members dying since the last annual meeting. These shall be duly filed by the General Secretary. The committee shall report on the call of the President at the last general session of each annual meeting.

Sec. 11.—Three members shall constitute a quorum of any Reference Committee, and all reports shall be made as hereinbefore provided.

SCIENTIFIC WORK.

Article I.—General Meetings.

Sec. 1. Date of Meetings.—The date of each annual meeting shall be fixed by the President on the advice of the Committee of Arrangements.

Sec. 2. Time of Meetings.—The general meetings or sessions shall be held at 10.30 a.m. and 7.30 p.m. of the first day of any annual session, and at 7.30 p.m. on the subsequent days. The President shall preside at all general meetings, and in his absence, or at his request, one of the Vice-Presidents.

Sec. 3.—The President shall deliver his annual address at one of the general meetings of the first day, as he may determine. The time of the deliverance of all other general addresses shall be arranged for by the Committee of Arrangements.

Sec. 4.—The order of business of the first general session of each annual meeting shall be as follows:

1. Calling the meeting to order by the President.

2. Prayer; by some one designated by the President.
3. Addresses of welcome and response.
4. The report of the Committee of Arrangements.
5. Reading the minutes of the last general session.
6. The report of the General Secretary of the last annual meeting.
7. Election of the Association's members to the Executive Council.
8. Presidential or other addresses, if decided on by the President and Committee of Arrangements.

Sec. 5.—The order of business for all subsequent general sessions shall be the same as that for the Executive Council.

Sec. 6.—All addresses delivered at any annual meeting shall immediately become the property of the Association, to be published or not, in whole or in part, as deemed advisable, in the official journal of the Association. They must, as soon as they have been delivered, be handed to the General Secretary, who shall refer them to the Finance Committee. Any other arrangement for their publication must have the consent of the author or of the reader of same and of the Finance Committee.

Article II.—Sections and Section Work.

Sec. 1.—The sections to be held at any annual meeting shall be determined by the Executive Council. In default of their so determining the duty shall be discharged by the Committee of Arrangements, who shall also appoint or elect the chairmen thereof and the vice-chairmen and secretaries. These section officers shall serve for such meeting only, but any of them, if deemed advisable by the Committee of Arrangements, may be appointed for the following meeting in proper course.

Sec. 2. Duties of the Officers of Sections.—The chairman shall preside at each meeting of any section, or in his absence or at his request, the vice-chairman shall preside. The secretary of each section shall keep a correct account of the transactions, and shall record them in a special section minute book provided by the General Secretary. The chairman and secretary of each section must verify and sign the minutes.

Sec. 3.—Each section shall hold its first annual meeting at 2 p.m. on the first day of each annual meeting; and each subsequent day of the annual meeting at 9 a.m. and 2 p.m. until the programme of that section is completed. No section shall hold a meeting that will in any way conflict with a general meeting of the association.

Sec. 4.—Honorary members of this Association shall have the privilege of presenting papers before any section and taking part in any of the scientific discussions.

Sec. 5.—All papers, essays, photographs, diagrams, etc., presented in any section, shall become the property of the Association, to be published in the official journal of the Association or not, as determined by the Finance Committee, and they shall not be otherwise published except with the consent of the author and of the Finance Committee.

Sec. 6.—Each author of a paper read before any section shall, as soon as it has been read, hand it with any accompanying diagrams, photographs, etc., to the secretary of the section before which it has been presented, who shall endorse thereon the fact that it has been read in that section, and shall then hand it to the General Secretary to lay before the Finance Committee for publication, in whole or in part, or otherwise disposed of as may be deemed advisable by that committee.

Sec. 7.—The order of procedure in any section shall be:

1. Calling the section to order.
2. Remarks by the chairman.
3. Reading minutes of previous meeting.
4. Reading of papers and discussions thereon.
5. Nomination of honorary members of the Association.

Sec. 8.—No paper shall be "Read by Title," except by unanimous vote of the section before which it was to have been read.

Sec. 9.—No business of any description shall be introduced at any meeting of any section except as hereinbefore provided. The time allotted for each paper shall not exceed fifteen minutes, and that for the discussion of such paper, five minutes.

AMENDMENTS.

Article I.

The Executive Council at any annual meeting may instruct the Finance Committee to make or to have made any changes in the articles of incorporation which may appear desirable, or which may be made necessary by any change or amendment in the constitution and by-laws of the Canadian Medical Association.

Article II.—Amendments to By-laws.

No amendments to by-laws shall be made except on a three-fourths vote of the Executive Council; provided that no amendment shall be acted on until the day of meeting following that on which the amendment was introduced and approved by the Association.

DR. TULPIUS' LESSON ON ANATOMY. BY REMBRANDT, 1632.

The Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the first of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the fifth of the preceding month. London, Eng. Representative, W. Hamilton Miln, Thanet House, 231 Strand, W.C. Agents for Germany, Saarbach's News Exchange, Mainz, Germany.

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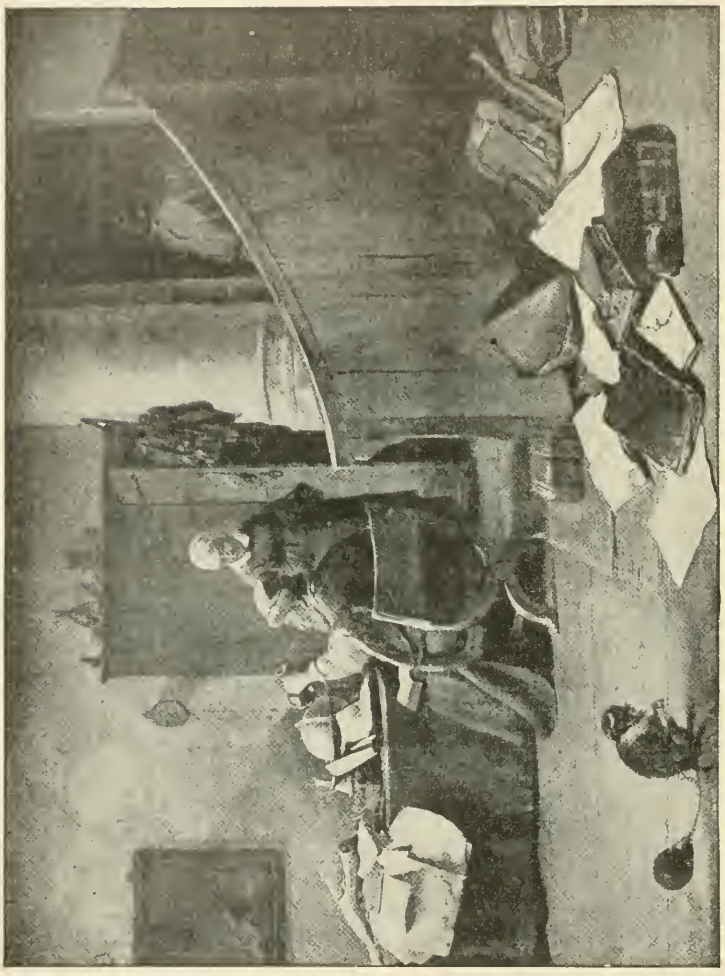
Editorials.

MODES OF STATEMENT OF THE CAUSE OF DEATH AND DURATION OF ILLNESS UPON CERTIFICATES OF DEATH.

THE Bureau of the Census (United States), S. A. D. North, Director Department of Commerce and Labor, has issued a pamphlet of 81 pages, in which useful information is given of the modes of statement of the cause of death and duration of illness upon certificates of death, as used in different States and countries. Conclusions and recommendations are likewise given, with a proposed new form of medical certificate of death, together with



PHYSICIAN IN HIS STUDY. BY DAVID TENIERS THE YOUNGER.

the reasons for adopting it as a uniform method of registering deaths. The United States Census Bureau has no authority except to suggest the desirability of certain measures and bring them to the consideration of the American Association of Registrars of Vital Statistics, organized as a section of the American Public Health Association. Ths latter section, which has members from the United States of America, the Dominion of Canada, the Republic of Mexico and the Republic of Cuba, met at Atlantic City, September 30—October 4, 1907. An amended form of Medical Certificate of Death was submitted and referred for consideration to the next meeting, which is to be held at Winnipeg, August, 1908. The proposed form of statement is as follows:

Medical Certificate of Death

DATE OF DEATH.

..... 190.....
(Month) (Day) (Year)

I attended Deceased from .....19..... to .....

19..... I last saw h..... alive on..... ....19.....,

and I hereby certify that death occurred on the . .. .

date above, at.....m.

The Disease causing death { or Means of Death Death from Violence } was:

Duration in years, months, days or hours.

....

.....

.....

.....

Resulting in :.....

Or aided by :.....

.....

Signed..... ..... M.D.

.....190 Address.....

State how injury occurred and whether: (Accidental ?) (Suicidal ?) (Homicidal ?)

To a practising physician the principal interest in a certificate of this kind naturally attaches to the statement of the cause of death and the duration of illness. In the form used in France information on these points is given under one head:

No. 7. Disease or accident cause of death. Acute. Chronic.

THE CHIEFS OF THE SURGEONS' GUILD. BY NICOLAES MAES, AMSTERDAM, 1680.

In Germany the following form is in use:

No. 9. Cause of death. (Nature of accident.)

The forms supplied by the Registrars-General of England and Wales and Ireland are identical in the arrangement and wording of this part of the blank:

[44]

England and Wales; Ireland

The cause of h ..... death was as hereunder written:

	CAUSE OF DEATH	Duration of disease in Calendar Y'rs M'ths D'ys H'rs
Primary	Enteric Fever	21
Secondary	Broncho Pneumonia	3

The Swiss form of certificate of death is fuller and more complete than that of any other nation. As it will be of interest to physicians in Canada, we give a translation of the medical part of the Swiss certificate:

8. Medical statement of the cause of death
(*a*) Primitive disease or primary cause.
In violent deaths state kind and cause, date of accident, of suicide, etc.
(*b*) Consecutive disease and immediate cause of death.
(*c*) Concomitant or circumstantial diseases worthy of being mentioned.
9. Autopsy: Yes.* No.*
10. Observations:
(Sanitary conditions of habitations, etc., see other side.)
The physician attending called after death.
Signed .....of.....
*Underscore the words which apply to the case.

This certificate, which contains other information, viz., as to the civil state, profession, etc., of the deceased, is mailed to the local Registrar in a *sealed envelope* especially supplied for this purpose. This is a "penalty envelope," which goes post free in the mails. It bears the inscription "Statistique de décès" in the upper right-hand corner in lieu of a stamp, and in the left corner above the words "Contrôle No.— of the Register of Deaths," with the physician's signature in the corner below. This enables

AT THE VILLAGE BARBER-SURGEON'S. BY DAVID RYCKERT.

the local Registrar to identify the return of cause of death as being made without opening the envelope, which he is forbidden to do. He sends it intact to the Federal Bureau of Statistics at Berne at the end of each month, where it is used solely for statistical purposes and thus the confidential statement of the physician as to the cause of death is absolutely guarded.

As an indispensable aid in securing brief and precise statements of cause of death, Swiss physicians are supplied with a "Nomenclature of the Causes of Death," similar to those issued by the Governments of Sweden, Holland, Germany and other countries, and to the pamphlet "Relation of Physicians to Mortality Statistics," distributed by the United States Bureau of the Census, some years ago, to every physician in the United States. In this list are indicated by single asterisk (*) diseases frequently *secondary* and by double asterisks (**) diseases usually or exclusively *secondary*, so that the Swiss physician has a practical guide to aid him in filling out the form correctly. Here are some of the examples:

Acute bronchitis and broncho-pneumonia.*	Aneurysm.*
Pleurisy.*	Convulsions.**
Endocarditis.*	Suppurative Nephritis.**
Meningeal Apoplexy.*	Empyema.**

Not only is there a very precise blank provided for the statement of cause of death by the Swiss physician, together with explicit instructions, a detailed nomenclature showing the relations of individual diseases and a system of post-free confidential communication, assured against violation of secrecy and professional confidence; but the central office also carries out a "follow-up system," which assures that the occasional cases of ignorance or neglect of the proper form of statement are promptly corrected. Here is the form:

Federal Bureau of Statistics,
Berne, 190.....

Dr.————————

Dear Doctor,—You have delivered a certificate of death for a person of male ———, female———, sex, occupation———, born———, died———, at———, St.———, No. —, from———.

The disease indicated as a cause of death being regarded as a secondary affection, I will ask you to kindly inform me of the *primary cause* of the death, which it is important to know from the point of view of statistics, as well as from the point of view of public and private hygiene of the sanitary administration. Thanking you, in advance, I remain,

Very respectfully,
The Director,
Federal Bureau of Statistics,
Dr. Guillaume

DR. EGBERT'S LESSON ON ANATOMY. BY THOMAS DE KEYSER, AMSTERDAM, 1619.

(On the opposite page of the death certificate are the questions.)

What are the sanitary conditions of the habitation?
(Question 10 of the card report of the death.)
Hereditary predisposition?
Mode of infection?
Accident, suicide, homicide?
In what way did the accident occur?
Probable or certain mode of suicide?

On the Ontario certificate of death the cause of death and duration of illness are put as follows:

Cause of Death { Primary / Immediate
Length of illness

A filled certificate of this form viseed by the Medical Health Officer is registered with the Division Registrar, who issues a certificate of registration of death. According to law, this last certificate must be forthcoming before burial takes place. The original card certificates of death are sent to the Registrar-General's Office each month. The publicity given to the cause of death by this system of card registration assists local boards of health in controlling infectious diseases; but is inimical to the truthful reporting of deaths due to diseases of the genital organs. For accuracy and fulness of detail, the Swiss form of certificate of death bears away the palm and ought to serve as a model should a system of reporting annually the cause of death in Canada ever be adopted by the Federal Government of Canada.

J. J. C.

RECIPROCAL MEDICAL EDUCATION IN CANADA.

The newly-elected College of Physicians and Surgeons of Manitoba discussed the question of reciprocity in medical registration between Great Britain and Manitoba at their inaugural meeting in October, 1907 (see *Winnipeg Telegram,* October 11, 1907). From this report we learn that nothing definite was decided, nor will it be possible to do anything until the meeting of the Legislature of Manitoba takes place. Hopes were, however, expressed that reciprocity will be accomplished through the Manitoba Government.

Saskatchewan and Alberta are very agreeably disposed towards the scheme; British Columbia is ripe for it; Ontario, New Brunswick, Nova Scotia and Prince Edward Island favor it. It is feared, however, that reciprocal registration with Quebec is out

THE ANEMIC. BY SAMUEL VAN HOOGSTRAATEN, 1626 TO 1678.

of the question, as that Province will not allow any alteration of its educational system, such as would be entailed by the passing of legislation to effect the desired end.

As the meaning of the last sentence may not be apparent to all readers, we propose to put it in a clearer light. At present Laval University, where nearly all the French-Canadian physicians receive their education, grants to her medical graduates the right to practise in Quebec. The professional examination is supervised by the representatives of the College of Physicians and Surgeons of Quebec; but, as a matter of fact, is held by Laval University, the representatives of the College being present to see that all is conducted in order.

If the Roddick bill were to become law some French-Canadian undergraduates in medicine would neglect to become graduates of Laval University and would prefer to pass the qualifying examination of the Canadian Medical Council, thus obtaining the right to practise in any Province of Canada, outside of Quebec. Laval would, therefore, lose some men who had received their medical training at her Medical School; but who would not think it worth their efforts to obtain her M.D. qualification.

Incidentally, it may be stated that McGill University and Bishop's College in Quebec would be placed in an identical position with regard to their medical undergraduates. In fact, any Canadian university at which medical degrees are granted would be exposed to the same loss. The general route to be followed by prospective Canadian physicians would be—one qualification obtained from the Canadian Medical Council and no compulsory examination in medicine by any other body in Canada.

As the active opposition or inertia of Laval University is likely to prevent the passage of the Roddick bill, even if the other Canadian universities should favor it, would it not be advisable to secure the adhesion of the French-Canadian University in another way? Make it compulsory on every candidate for the examination of the Canadian Medical Council that he shall previously be a graduate in medicine of a university of the Province or country to which he belongs. Were this provision made obligatory, a graduate in medicine of a Canadian university would, if desirous of obtaining the national and the imperial medical qualification, pass the examination of the Canadian Medical Council.

If satisfied to practise in one Province of the Dominion, he would simply have to conform to the existing medical laws of that Province.

It seems, however, on the face of things, that a movement in favor of medical reciprocity in Canada, as well as the other advantages to be obtained after the Roddick bill becomes law, should be made by Laval University. That University and the French-Canadian people have medical interests involved which at present are not looked after. There are numerous settlements of French-Canadians in Ontario, particularly in the newer parts of this Province, and in these settlements the services of a French-speaking physician are often required. Recently two French-Canadian physicians obtained, by special act, the privilege of practising in this Province, owing to the fact that the majority of their patients were French-speaking people. Now, the passing of a special act of this kind—giving an outsider the right to practise in a Province in which he is not qualified by examination, should only be allowed for extraordinary reasons.

In other Provinces there are settlements where a French-speaking physician would be welcomed by the inhabitants. Evidently, the reason why a demand for a French-speaking physician, outside of Quebec, is not answered is, that a medical graduate of Laval University does not wish to take the onus of passing an examination before the qualifying medical body of the English-speaking Province he may wish to practise in.

It may be contended that a French-speaking graduate of Laval University, if anxious to practise in Ontario, could pass the qualifying examination of the Ontario Medical Council as easily as that of the proposed Canadian Medical Council. The cases are not similar. The College of Physicians and Surgeons of Ontario does not provide for the reading of papers written in the French language—the proposed Canadian Medical Council, to be established under the provisions of the Roddick bill, would be obliged to make such a provision, if Quebec supported the bill.

In the interests of the medical graduates of Laval University and, in response to the demands of French-Canadian emigrés living in Ontario, and other parts of the Dominion, where French is not spoken, Laval University should be especially active in calling for the national medical qualification. If, while obtaining from

the Government of Canada a favorable answer to her quest, Laval University is enabled, by the operation of the provision suggested above, to conserve the loyal support and adhesion of her medical graduates, no lover of higher medical education in Canada should object. J. J. C.

A LONG LIFE'S WORK IN MEDICAL EDUCATION IN ONTARIO.

Dr. Walter B. Geikie, of Toronto, founder of Trinity Medical College, and its Dean for twenty-five years, was honored by Queen's University, at the Convocation held in October in Kingston, conferring upon him the degree of LL.D., in recognition of his long and faithful services in medical education.

His many years of laborious and successful discharge of his duties as a medical professor, and his having co-operated in founding one of the best known medical colleges in Ontario, lead his many friends to feel that this honor has been worthily bestowed. Prior to 1871, when Dr. Geikie suggested the establishment of Trinity Medical College, he had been busily engaged in Victoria University's Medical Faculty, and successively filled the Professorships of Obstetrics and Diseases of Women and Children, Materia Medica and Therapeutics; Anatomy, Descriptive and Practical, Surgery, and Clinical Surgery, Medicine, and Clinical Medicine in that institution.

He resigned his position there in 1870, at the same time that the late Hon. Dr. John Rolph sent in his resignation, as his sympathies were all with Dr. Rolph, who was Dean of the Faculty. By special request of the late Dr. W. T. Aikins, Dr. Geikie lectured during session 1870-1871 on Clinical Medicine in Toronto General Hospital. The suggestion above mentioned, regarding the formation of a Trinity Medical Faculty on the basis pointed out in his memorandum having been adopted, this was at once fully carried out. A good new building was erected near the General Hospital, and was ready for occupation by October 1st, 1871. The new Faculty announced, as soon as it was formed, that in April, 1871, primary and final examinations would be held. Large numbers of candidates had requested that this should be done.

These examinations, the very first work of the Faculty, were

held, the graduating class alone, numbering thirty; the primary class was correspondingly large. The latter included Dr. Wm. Osler, now Regius Professor of Medicine, Oxford, England. Dr. Peter MacDonald, Deputy Speaker of the House of Commons, Ottawa, and Dr. Angus MacKay, ex-M.P.P., of Ingersoll, Ont. According to notice in the Calendar, the first session opened with a good class and was a complete success. This Medical Faculty was well received from the beginning by the public and by the profession. All the Royal Colleges of Physicians and Surgeons in Great Britain and Ireland recognized the College at once, and gave it as high a recognition as any college in the various British colonies had ever received. This was found to be a great advantage, and large numbers of the graduates of Trinity Medical College took British diplomas every year; and not a few, went on to the Fellowship examinations in the British Royal College and created a very good impression of Trinity Medical College by the high standing they took at the examinations.

The late Dr. Hodder, of Toronto, a professor in a former Trinity Medical Faculty begun in 1850, but which, through no fault of its Faculty, was short-lived, but successful while it lasted, was on motion of Dr. Geikie unanimously appointed Dean, which position he held till his death in 1878. The other professors of the principal subjects at first, were Dr. Beaumont, Surgery; Dr. N. Bethune, Anatomy; Dr. Hallowell, Materia Medica; Dr. W. B. Geikie, Medicine, General and Clinical; Dr. Fulton, Physiology; Dr. C. W. Covernton, Pathology; Dr. Temple, assistant to Dr. Hodder. The remainder of the subjects were given to others, who were in due course appointed.

Dr. Geikie having had the advantage of being associated for many years with Dr. Rolph in the building up and management of a prosperous medical college, was put in charge of the College Register, and was appointed secretary and treasurer, and was expected also, to act as the executive officer of the Faculty, to look specially after the interests and welfare of the College in every matter where these were involved.

This newly-founded College had a course of ever-increasing prosperity during the thirty-two years it was in active operation. The curriculum was yearly carefully gone over, and was based on that of the best British universities and medical colleges. No

subject of practical value was omitted. The great importance of laboratory work, was never lost sight of, and improved and extended constantly. Minor subjects, *i.e.*, those of less importance in a practical medical education, were not allowed to encroach upon the more essential and indispensable subjects, by giving too much time to their study.

The special desire was, to send out no man who was not well grounded in the work essential at the bedside, viz., the diagnosis, prognosis and treatment of such cases as the general practitioner is most certain to meet with in practice. The results of this policy are seen to-day everywhere these men have settled, by the good impression they make on the public, by their success and the great demand there is for them, which increased every year the College lasted. In this article we are freely using an address on the work of Trinity Medical College, delivered by Dr. Geikie last spring at a largely-attended reunion of his old graduates, which is very earnest, and deals with the subject of practical medical education as carried on in the College. In that address he says:

"Trinity Medical College always had 'the practical' in view, and made this her chief business in every part of the course, *i.e.*, to have the men they sent out well informed on all subjects, which were certain to be useful to them at the bedside in future life. Fifty-one consecutive years in connection with medical education have confirmed him in the view that on this basis, and on no other, can a good medical college rest—*i.e.*, a medical college which will prove fully successful and be a credit to the country and do full justice to all its students."

In regard to Trinity Medical College itself, he said "that at her own cost she had been able to occupy good buildings, to add largely to them more than once, to equip the College well, for every practical purpose, to add to her equipment every year, to provide large and good lecture rooms and laboratories as well, convenient and furnished with all needed appliances, and constantly adding to and improving these; and had an excellent and ever-enlarging museum, creditable to any medical college. Dr. Allbutt, of Cambridge, England, a very distinguished professor in that university, was, during a visit some years ago, taken over the College, and expressed his pleasure and surprise

at seeing 'the building and all the appliances so excellent,' to use his own words.

"Trinity Medical College educated entirely some 2,000 graduates, the peers of any in Canada. It had a list of 190 gold and silver medallists, besides the very large number of scholarships won in several years, all of these the gifts of the College, and all competed for and deservedly bestowed. Then it had its special Act of incorporation given it by the unanimous vote of the Legislature of the Province. Mr. Biggar, son-in-law of the late Sir Oliver Mowat, drew it up for the College in 1877, with what help Dr. Geikie was able to give him, and Mr. Biggar (for some years the Professor of Botany, and an eminent lawyer) said he considered it the most complete Act incorporating a medical college which he knew of, and this was emphatically the case.

"Up to 1903 the College had been prospering year by year, sometimes more, sometimes less. The last two sessions of the College were amongst the best, and the very best, so far as the amount and quality of the teaching done during these sessions is concerned. Financially the College was in a good state, able to pay everyone very fairly indeed for the work done." He said that "the payments made to teachers were a good deal larger than in some other medical colleges at present. Now, although Trinity Medical College is, since July, 1903, but a memory, it is, in view of the great and splendid work she did, and the many years she kept it up, a very grand one."

Dr. Geikie said, in closing: "With his intense devotion to her interests for thirty-two years of the best of his life, having been Dean for the last twenty-five years of her existence, and her chief executive officer, so far as doing all the exacting work it required, for thirty-two years; having represented her on the Medical Council from her incorporation in 1877 till 1902, twenty-five years, duties involving great responsibility, and being the person who was the means of setting her agoing in 1871, it would have been quite impossible for him to have been a consenting party to the changes of 1903, by which her name and her autonomy were blotted out. He had fondly hoped that a college having so fine a record would continue to exist as a famous medical teaching body long after he had been gathered to his fathers, as it should have done.

"To him the loss of her autonomy was a very great and unexpected disappointment. He is thankful, however, that she existed long enough to do all she has done for medical education. No wonder her name should be dear to him, when he thinks of the many years of teaching he did within her walls, and the great amount of time spent otherwise, and always willingly, working for her prosperity, and of the many large classes of good students who for so many years filled her class-rooms, and by whom her extinction, as a college, is deeply regretted. No graduate worthy the name, or student, who was privileged to attend her teachings can or will ever forget the dear old College. The deserved eminence which many of her sons have attained, and the love of all her true sons, will, he trusts, for many years to come throw very bright halos round her much-loved name, which they will ever cherish when it is mentioned, as it is sure to be very often, as they recall how much she did for them, in their never-to-be-forgotten student days."

Dr. Geikie adds "that throughout his long career as a medical teacher he has lived for his College and her students and with all the energy he possessed, has striven to promote their best interests. He says he feels that he still lives in the hearts of many of his old graduates, who show this by their letters. His whole desire has always been to do the best in his power for every student of his College, in order to enable him to be a blessing to the neighborhood in which he might settle, and reflect credit upon his College by doing good work in his profession."

EDITORIAL NOTES

Eating and Overeating.—At the annual conference of the Sanitary Inspectors' Association, held at Llandudno last September (see *Medical Times and Hospital Gazette,* September 28, 1907), Sir J. Crichton-Browne vigorously condemned vegetarianism and especially the latest cult, which sought to promote health and happiness by starvation. He said that on all hands the cry was that we ate too much and overloaded our stomachs. He inculcated temperance and not prohibition and he gave no countenance to vegetarianism, being a firm believer in the virtues of a

mutton chop. He would be glad to see a sirloin of beef regularly on the Sunday dinner-table of every family in the land. Sir J. Crichton-Browne's good wishes for a plenteous supply of meat on the tables of poor men are creditable to his kindliness of heart; but sirloins of beef do not materialize from good wishes. The people to whom his remarks on overeating are addressed—the well-to-do classes of England, as sane as any similar classes in the world, fee physicians to give them dietetic advice, which they sometimes follow. However, a great many of them have learned, by sad experience, that gormandizing ruins health and they use their intelligence to regulate the quantity and quality of their daily food. Dives need not become bilious or gouty because he is rich—simple, even vegetarian fare, may suit his system better than mutton chops or sirloins of beef. The banquets given the delegates of the International Peace Congress at the Hague last summer, though doubtless intended as the expression of kindly feeling, were disastrous to the health of some of the guests. These results of hospitality may have been due in part to the peculiar toothsomeness of Dutch cookery; but the guests themselves were responsible for gormandizing, in a way which recalls what Roman history tells of the banquets of Nero. Should men of high intellectual attainments injure their chief capital—their wits—with gluttonous feeding? Better, by long odds, be an underfed workman, glad to get meat once a week, than be an overfed diplomat, who is forced to take emetics and purgatives to rid his body of the perilous stuff he has eaten, in order that Herr Van This or Frau Van That might be able to boast that he or she had entertained some members of the International Peace Congress.

Should Tea be Drunk at a Meal When Meat is Eaten?—"When there is mechanical embarrassment of the heart by a distended and dilated stomach, there is danger of an attack of heart failure in elderly people in whom the heart has undergone degenerative changes." A case illustrative of Broadbent's view, which we quote above, was reported in the press of London, Eng., last October. W. M. A., aged 62, a window-cleaner, who had been a teetotaller for thirty years, and an inveterate tea-drinker, ate a supper of boiled beef and afterwards had some tea (October 18, 1907). Early next morning he was taken ill and died before a doctor could be procured. An autopsy showed some thickening

of the mitral valve and that the heart was weak and flabby. The stomach contained undigested food and was distended. A verdict of death from syncope, weak heart and indigestion from excessive tea-drinking was returned by the coroner's jury. It is a wonder that the brand of tea was not mentioned. The impression left by this verdict is that the tannin in tea, acting on the meat in the stomach of the deceased, was largely responsible for his death. It is true that the tannin in tea (12.88-17.80 per cent.) toughens meat and makes its digestion slow; but this chemical reaction does not produce sudden death in the millions of people who drink tea and eat meat at the same meal in Europe and America, not to speak of other continents. The fatal result in the case of the London window-cleaner was mainly due to a distended and dilated stomach, causing mechanical embarrassment to a weak and flabby heart, which was provided with a thickened mitral valve. In an elderly person with such cardiac characteristics, flatulent distention of the stomach from the eating of turnips or cabbage would be dangerous to life. Had the window-cleaner's heart been sound he might have gone on eating boiled beef and drinking tea at the same meal for many a year.

The Treatment of Alcoholism in Psychiatric Hospitals.—The beer-drinking Bavarians are much beholden to Dr. Kraepelin, who in the psychiatric hospital at Munich treats a large number of cases of alcoholic addiction. In a printed abstract of a report recently presented to the Ontario Government, it is said that 39 1-2 per cent. of all the patients treated at the Munich psychiatric hospital in 1905 were alcoholics. These unfortunates are taken directly to that hospital by the police and this applies to "ordinary drunks," as well as victims of chronic alcoholic poisoning. The practical results are said to be satisfactory; but, before recognizing any novel force in Dr. Kraepelin's treatment of alcoholism, one should learn the percentage of relapses. Every physician knows that alcoholic patients can be much improved, at least for a time, many of them abstaining rigidly for a short period, only to return with increased zest to the old addiction. In private practice a physician is hampered in his efforts to control a case of confirmed alcoholism. If an alcoholic patient is anxious to be cured of his bad habit, if his table is well

provided for, a physician, at the patient's home or at his own office, may use strychnine, atropine and f. ext. cinchona with advantage. Cures of such cases are occasionally recorded in the medical press. In many instances, however, the patient is unable to keep a firm resolution to avoid drink, and it would be pure charlatanism, if the physician were to maintain that he could prevent the patient from drinking to excess, if the patient were so minded. In the treatment of many and varied cases of alcoholic addiction, each of which may present peculiar features of its own, remedial measures should be selected from the entire arsenal of therapeutics, just as the conditions of the individual patient may demand. Such therapeutic conditions are best found in a psychiatric hospital. Absence from old associates may also be a feature, though it is difficult to see how that can be the case at the Munich Psychiatric Hospital. Control of vicious inclinations probably answers as a preventive of drinking, even though old cronies are met with. Drug-therapy has its uses; electro-therapy, balneotherapy (including thermo-therapy and hydro-therapy), mechanical vibratory stimulation and massage are also useful. And any one of these agencies is more potent for good if it is employed by one who has confidence in his own powers and who can impress his own will on others. But not one of these curative agencies can take the place of an unalterable resolution to avoid the sources of temptation.

Some Views on the Treatment of Alcoholism.—Thirst for alcohol seems to be a morbid mental phenomenon, more insistent in its demands than hunger, while its force, by overbalancing the reasoning faculties, lowers man to the mental level of a child, then of a beast and eventually renders him thoughtless, sexual and a profligate. When a man sinks so low, his inebriety or habitual drug narcosis results in moral insanity and is, therefore, a disease of the mind as well as of the body. Among the psychic influences which help to pull alcoholic men out of the mire and place them again on their feet is the total abstinence pledge, made in a church association or a teetotal abstinence society—auto-suggestive and suggestive also. Very suggestive is the influence, silent or spoken, of cheerful men and women, who show, by their behavior, that true joy and unadulterated happiness are not expressed in the good feeling of a toper over his glass.

The Control of Certain Diseases by Hygiene.—In cities governed by sanitary law permanent and marked reductions of mortality are confined to causes of death resulting from diseases over which sanitary administration and preventive measures have most direct control. Thus an enforced vaccination act prevents deaths from smallpox diphtheria antitoxin, used betimes, jugulates diphtheria in the sick and protects the well from it. A pure water supply is synchronous with a vanishing mortality from typhoid fever. Even if the Toronto water supply were filtered, cases of typhoid fever would occur in this city. Strangers and citizens who had caught the infection abroad would sicken with it here; constant residents might catch it through infected milk or other food. It is conceded, however, that a filtered water supply would minimize our typhoid mortality. The actual typhoid mortality of Toronto is 24 per 100,000 of population, a figure somewhat higher than that of Greater New York (15 per 100,000), where the supply is guarded by the police; and also higher than that of Chicago (18 per 100,000), where, in spite of the dearly-bought advantages of the drainage canal, pure water is not yet available. It is not a daring thing to prophesy that the water supply of Toronto will improve when it is transported through an impervious tunnel. Too much reliance, however, should not be placed on a water-tunnel. To get pure water, precipitation of the supply in large reservoirs, or its filtration through sand, should be obtained. J. J. C.

DEATH OF DR. J. H. COLLINS, FORMER HOUSE SURGEON TORONTO GENERAL HOSPITAL.

The death is announced in Chicago of Dr. J. H. Collins, a former resident and practitioner of this city. Dr. Collins was an honor man and medallist of Toronto University, having obtained his degree of M.B. in 1889. He was afterwards a house surgeon at the Toronto General Hospital. For several years he has been practising in Chicago as an eye and ear specialist. Dr. Collins a short time ago attended the funeral of his mother in Toronto and since his return to Chicago has been suffering from severe nervous collapse. His friends knew nothing of his illness until they were advised by telegram a short time before his death. His brother, Mr. J. H. Collins, of Berlin, Ont., was with him at the time of his death.

News of the Month.

MEETING OF 11th TERRITORIAL DIVISION OF THE COLLEGE OF PHYSICIANS AND SURGEONS.

The inaugural meeting of this Association, composed of all medical practitioners practising in the City of Toronto west of Yonge Street, took place on October 29th, and was fairly well attended. Of this Association, Dr. J. S. Hart is President and Dr. F. A. Clarkson is Secretary-Treasurer. The objects are to improve the conditions of the profession, fight against quacks, fix a minimum fee and amend lodge terms.

A motion was unanimously passed fixing the lowest fee for medical examination for fraternal societies at $2.00. At present the examinations for many of these societies range from 50 cents to $1.00. Other fees were also fixed. For instance, the minimum fee for the fracture of the arm is now $20.00, for the fracture of the forearm, one bone, $20.00, both bones, $30.00; and for fracture of the nose, $5.00. These, of course, include the necessary visits.

The minimum fees to be charged for minor operations are $10.00, and for major operations, $50.00. The rates for visiting patients have also been increased. Hereafter a visit will cost $2.00 for the first and $1.00 for each subsequent visit. Rates for night visits have also been increased and $3.00 will be the chargeable fee. An office visit is $1.00, including prescription, and to give anesthetics a fee of $5.00 is charged. Urinalysis will cost, chemical, $2.00; microscopic, $2.00, or both, $3.00.

We trust that members of this Association will stand shoulder to shoulder in the aims herein set forth. It is most unfortunate that some of the newspapers in reporting this meeting stated that the doctors were "now forming a union," thus putting the profession on a par with the various trades. It is hardly necessary to state that such is not the case, the ideas being wholly and solely the raising of the standard of the profession by combating quackery, if possible doing away with lodge practice, or in any event raising it up from its present low ebb, and improving the conditions of the profession generally. The matter of amending medical fees is but incidental to the meeting, and we think most will admit that, if there is any class who are underpaid, leaving out of consideration the vast amount of charity work he does every day, it is the family doctor.

GRADUATING EXERCISES AT GRACE HOSPITAL.

The annual graduation exercises took place at Grace Hospital on November 5th, when seven talented young ladies were handed their diplomas. They are heartily recommended by the Lady Superintendent, who speaks highly of their faithfulness and efficiency.

The interest taken in the good work which the institution is doing was shown by the large attendance. Hon. Senator Cox occupied the chair and presented the diplomas. A number of addresses were delivered, reports were read, and many facts of general interest were adduced.

The opinion seemed to prevail that Toronto needs more hospital accommodation. Grace Hospital is preparing for enlargement, and $50,000 is already promised. At the same time it is felt that the present demands, especially for free or partially free treatment, are overtaxing the resources of existing institutions. This hospital gave nearly 2,000 free treatments during the past year.

The institution has graduated 117 nurses to date, and is now in a position to give a far more thorough training than formerly. Friends have been generous in their gifts, and the apparatus available is of an up-to-date nature. The X-Ray department has been doing work along lines which would have been thought impossible a few years ago.

Mr. Frank Roper, Treasurer, read the financial report for the year. The hospital books show a gross deficit for the year of $815. The total income was $33,472.01. The cost per diem per patient had been 99 cents, as against 93 cents in the year previous. The hospital had admitted 1,433 patients during the year, but had refused 300 owing to lack of accommodation.

Addresses were made by the Chairman, Judge Winchester, Mr. J. E. Atkinson, and a number of physicians interested in the hospital. Miss Barnes read the valedictory of the graduating class. Miss Barwick reported for the Central Registry. Dr. Bruce Smith addressed the graduating class.

The graduating nurses numbered seven, as follows: Maude Elizabeth Tindale, of Arthur, Ont.; Margaret Eleanor Coulter, Bethany; Rose Elizabeth Monnery, Reading, Eng.; Margaret Alice Thompson, Orkney, Ont.; Lilian May Wixon, Toronto; Carrie Elizabeth Gibson, London, Ont.; Clara Louise Barnes, Georgetown, Ont.

The presentations were made as follows: Vandersmissen Medal, won by Miss Thompson, presented by Miss Vandersmissen; Wismer Medal, won by Miss Gibson, presented by Mr. Atkinson; prize for tidy room, won by Miss Barnes, presented

by Mrs. R. B. Hamilton; pins for massage, presented by Miss Campbell; diplomas, presented by Senator Cox; school pins, presented by Miss Patton, Lady Superintendent.

Miss Barwick's report as to the Central Registry was of general interest to the profession. The Registry, inaugurated in June, 1905, is designed to direct the nursing supply into its proper channels. The first year there were 554 calls received. The second saw an increase of nearly 1,000.

The board which has charge of the Registry is made up of two representatives elected by the alumni of each city hospital. There are fifteen members in all, including an American, to look after the interests of graduates from across the line, and a Canadian to represent graduates from outside of Toronto. Of the 240 graduates on the books 27 are from Grace Hospital.

The Lady Superintendent, Miss E. Patton, submitted the Sixteenth Annual Report of the Hospital and Training School for Nurses. Between two and three hundred applications for admission to the Training School had been received during the year. Of the twenty young ladies received on probation, nine were accepted, five not accepted and six did not remain. Two nurses resigned, one of whom has since been re-admitted; one was suspended and since reinstated, and three were advised to give up their training on account of ill-health. Graduates now number one hundred and seventeen.

During the year the lectures given were as follows: Eye and Ear, Dr. L. L. Palmer; Surgical Nursing, Dr. G. P. Sylvester; Obstetrics, Dr. C. J. Hastings, Dr. J. M. Cotton; Anatomy, Dr. C. J. Currie; Gynaecological Nursing, Dr. W. J. H. Emory; Infectious Diseases, Dr. A. O. Hastings; Physiology, Dr. D. W. McPherson; First Aid, Dr. W. Nattress; Diagnosis, Dr. L. H. Evans; Minor Surgery, Dr. W. Harris; First Aid, Dr. B. L. Riordan; Anesthesia, Dr. R. A. Stevenson.

ST. CATHARINES MEDICAL MEN STAND FIRM.

The Medical Association of St. Catharines and district have taken a forward move in the matter of life insurance fees, which is meeting with the general approval of the profession throughout the Province. The life insurance companies were notified that after the first of July last the minimum fee for life insurance examinations would be $5.00, to which some of the companies entered a protest. At a recent meeting the Association unanimously reaffirmed its decision to make no examinations for less than a five-dollar fee. All the leading companies of the United States, with one exception, have agreed to pay the fee. Several Canadian companies have, and it is expected the others will soon fall in line.

ASSISTANTS AT VARSITY.

Sessional appointments to the University staff were made on the 10th ult. by the Board of Governors. Greater attendance in nearly all the faculties made a greater number of assistants necessary. The appointments are as follows:

Faculty of Medicine.

Department of Anatomy—Demonstrator, Dr. C. B. Shuttleworth; assistant demonstrators, Dr. R. E. Hooper, Dr. A. J. MacKenzie, Dr. W. W. Jones, Dr. A. W. Caulfield, Dr. O. T. Dinnick.

Department of Surgery—Demonstrators in clinical surgery, Dr. W. J. O. Malloch, Dr. G. Silverthorn, Dr. E. Stanley Ryerson, Dr. S. H. Westman, Dr. Samuel Johnston, Dr. W. A. Scott, Dr. W. W. Jones.

Department of Medicine—Assistants in clinical medicine, Dr. E. C. Burson, Dr. B. O'Reilly, Dr. C. J. Wagner, Dr. H. S. Hutchison; demonstrators in medicine, Dr. T. D. Archibald, Dr. G. W. Howland, Dr. W. J. McCollom, Dr. D. McGillivray.

Department of Pharmacy and Pharmacology—Class assistants, F. C. Harrison, B.A., A. W. M. Ellis, B.A., W. J. M. Marcy; clinical laboratory assistants, M. H. V. Cameron, M.B., J. H. McPhedran, M.B.; demonstrator in obstetrics, Dr. J. A. Kinnear; laboratory assistant in bacteriology, Dr. T. D. Archibald; demonstrator in pathology and assistant curator pathological museum, Dr. E. S. Ryerson; demonstrators in pathology, Dr. G. Silverthorn, Dr. C. J. Wagner, Dr. W. H. Pepler, Dr. H. C. Parsons, Dr. F. A. Clarkson, Dr. G. W. Howland, Dr. C. B. O'Reilly, Dr. H. S. Hutchison, Dr. Joseph Graham.

TEACHERS TO BE MEDICAL EXAMINERS.

The principals and teachers in the city schools are to be given a course of instructions which will enable them to detect symptoms of diseases of the eyes, ears, nose and teeth, and such other physical defects as would be likely to pass unobserved in school children.

This is following the system of medical examination which prevails in New York, and was decided on at a conference recently between Dr. Sheard, Trustees Henry Simpson, Dr. Ogden and Dr. Hunter, Inspector James L. Hughes, and Secretary W. E. Wilkinson.

Any defects discovered by the teachers will be reported, and in cases where the family can afford it, a medical examination will be made by the family physician, while the Medical Health

Department will conduct the examination where the parents of the children are unable to bear the expense.

Dr. Sheard will give the teachers the instructions necessary to enable them to make proper examinations.

The system is to be tried as an experiment for a year, when the result will be reported to the Board of Education.

In New York separate schools are provided for children afflicted with various diseases, tubercular patients are housed together, and those suffering from other diseases are also kept in separate schools. This system is not necessary in Toronto, as there would not be a sufficient number of children affected to warrant the expense.

EX-HOUSE STAFF ASSOCIATION OF THE TORONTO GENERAL HOSPITAL.

The following members of the Ex-House-Staff Association of the Toronto General Hospital assembled at the first of their clinics on October 24th, 1907: Doctors Parsons, Shuttleworth, W. P. Caven (President '07), G. W. Ross, Walter Wright, Samuel Johnston, J. F. W. Ross, Winnett, Caulfield, C. Temple, Trow, Hendry, Robinson, Nevitt, G. B. Smith, Stark, Rolph, H. B. Anderson, Campbell, Bruce, Honeywell, and the following members of the House Staff: Doctors Strathy, Lewis, MacMillan, Dickson, Burwell, Boldington, Rolph, Kinnear, Henderson, Graham and Fox.

Dr. W. P. Caven, the President, occupied the chair.

It was moved by Dr. J. F. W. Ross, and seconded by Dr. H. B. Anderson, that the last Thursday in each month be the date on which the clinics should be held.

It was also resolved that members of the Association might be allowed to bring in guests and that these guests might be permitted to show cases.

Dr. Caven then presented a patient suffering from mitral disease, associated with pulmonary tuberculosis. This case was discussed by Doctors G. W. Ross, H. B. Anderson, Robinson and J. F. W. Ross.

Dr. Caven presented a second case. This patient was suffering from the classical symptoms of cerebral tumor. This was discussed by Doctors C. Temple, Campbell, H. B. Anderson, Robinson, G. W. Ross, Shuttleworth, Smith and Trow.

Dr. Strathy, Senior House Surgeon and Assistant Registrar, presented a patient suffering from what had been diagnosed as obstruction of the interior vena cava. This case was discussed by Doctors Nevitt, Parsons, Caven and Anderson.

Dr. J. A. Kinnear presented a patient suffering from chronic

gout, reading the history of the case. It was discussed by Doctors Parsons, Nevitt, Caven and Robinson.

The Chairman then introduced to the meeting Dr. Wm. Honeywell, who was on the staff in the year 1877-78. Dr. Honeywell gave a brief address, contrasting conditions as he found them now in the hospital, around which he had been a good deal during the past few weeks by reason of the illness of his wife, with the conditions as they were when he was a house surgeon.

The meeting then adjourned.

TORONTO GENERAL HOSPITAL TUBERCULOSIS CLINIC.

(1) The nurse is required to attend the clinic at the Toronto General Hospital on Tuesday morning at 10 o'clock.

Each patient is to be supplied with a cloth or paper handkerchief into which to cough at once on entering.

The temperature, pulse, respiration and weight of each patient is to be recorded and the record brought into the examining-room with the patient's history.

(2) All new cases are to be visited during the following week and a report of their surroundings and any other necessary information made at the next clinic.

(3) All patients under observation should be visited at their homes at least once in two weeks.

(4) Patients confined to bed should be visited twice a week, or more frequently, as occasion requires.

(5) In cases of emergency the nurse is to be sent for, who will report to the physician-in-charge or an assistant, who will direct her as to measures to be carried out. If necessary the nurse will remain with the patient, or nearby, as long as is necessary, or until the patient is removed to the hospital.

(6) The nurse will direct the patients as to the disposal of sputa, and see that these directions are carefully carried out. In the event of negligence in this regard she will report the same to the Medical Health Officer and to the physician in charge of the clinic.

(7) Request for disinfection of house is to be made to the Medical Health Department after the death of a patient, or when a dwelling is vacated by a patient, or when in an unsanitary condition and negligence of precaution is evident.

(8) In cases of absolute want, milk and eggs may be supplied, the means of such supply to be directed by Dr. Brown. A report of this is to be made to Dr. Brown each week.

(9) A weekly report is to be made to the physician-in-charge as to the patients visited, the total number of visits made, the disinfection of houses, and any other matter worthy of note.

The Physician's Library.

A *Manual of Diseases of the Nose, Throat, and Ear.* By E. Baldwin Gleason, M.D., Clinical Professor of Otology at the Medico-Chirurgical College, Philadelphia. 12mo of 556 pages, profusely illustrated. Philadelphia and London: W. B. Saunders Company. 1907. Flexible leather, $2.50 net. Canadian agents: J. A. Carveth & Co., Ltd.

This book is called a manual, and was written for students and general practitioners. It is really more than a manual, and if not written for specialists, may with very great profit be read by them. The arrangement of the subject-matter and the selection of the illustrations enhances very materially the pleasure one derives from reading this book.

In discussing mycosis of the pharynx the author, after discussing rather fully methods of treatment, says, "Occasionally the growths disappear spontaneously." As these masses of leptothrix cause no symptoms and always get well themselves, one cannot argue that cautery punctures and caustics are necessary. In the illustration on page 218 the line of incision should be higher. In discussing the etiology of subacute laryngitis attention is drawn to the necessity of seeing that the furnace is so fixed that no escape of carbon-dioxide gas takes place into the hot-air chamber. This measure alone, Gleason says, sometimes prevents many members of a household from having repeated attacks of sore throat. In cases of chronic laryngitis the author says that orthoform sometimes quickly relieves pain, congestion and hoarseness. As orthoform only acts where the mucous membrane is destroyed, he must mean chronic laryngitis with ulceration.

The portion of the book devoted to the ear is larger than usual in small books. It is thoroughly up-to-date and splendidly illustrated. At the end of the book are found forty-two pages devoted to formulæ.

In addition to the prescription is given a full account of the methods of use and the action of the various remedies. This feature is of decided advantage and one sure to be very much appreciated by general practitioners. The book is a very neat, compact volume and a credit both to the author and publishers.

P. P. G.

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